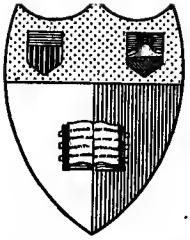
The Control of City School Finances

G. W. FRASIER



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By GEORGE W. FRASIER

Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy, in the Faculty of Philosophy, Columbia University.

PREFACE.

The public schools of America cost money. This cost has constantly increased until today it involves a vast expenditure. Americans no longer doubt the advisability of public schools, but the question of financing these schools is a vital one.

It is not the purpose of this book to discuss the merits of different methods of providing funds for the public schools. It shall attempt only to discuss the merits of the different methods of controlling these moneys. In New York City the board of estimate and apportionment controls the granting of money to the schools; in Detroit it is the city council and mayor; in Cleveland it is the county budget commission; in Newark it is the board of school estimate; while in such cities as Philadelphia, Seattle, Chicago and St. Louis, the board of education raises and expends its own funds.

The question as to who shall control the raising and disbursing of moneys for the public schools is, and has been for years, a much debated question. It is the purpose of this book to present the different methods used in American cities and to examine and evaluate each in the light of educational efficiency.

This book was largely written while the writer was an associate in the Department of Educational Administration at Teachers College, Columbia University, and he is deeply indebted to the faculty of that department for suggestions and help. Acknowledgment is due particularly to Dr. N. L. Engelhardt whose encouragement and advice have been invaluable. The writer is indebted to Dr. George Drayton Strayer for numerous suggestions and for the valuable assistance of the "Committee for Chamber of Commerce Co-operation with the Public Schools" of which he was chairman. Thanks are also due Mr.

Fred Richardson, secretary of the above committee, for his kindness in allowing the writer to work many days in his office in New York City.

If this book helps any city school system in its struggle to free itself from outside control in financial matters it shall have served its purpose.

Denver, Colorado
March, 1922

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CHAPTER I

THE BOARD OF EDUCATION ITS RELATION TO MUNICIPAL DEVELOPMENT.

The history of American city government is largely a history of experimentation and continuous change. Almost every conceivable combination and type of government has been tried by some American municipality. It thus becomes possible to trace a development through many different stages from the earliest charters up to the present forms.

Previous to the American revolution, few cities were large and important enough to need a separate form of government. The municipalities of New England found that the usual townmeeting form of government was adequate for their purposes. In some cases they have not surrendered this type even where cities have become so large that town meetings are scarcely practicable. In all, only twenty boroughs and cities were granted charters during colonial days. Following the usual English custom these charters were granted by the governor of the colony in which the city was located.

Colonial city charters usually called for a government which "consisted of a single council made up of mayor, a small number of aldermen and a large number of councilmen, all sitting together."[1]

For some years after the revolution and the adoption of the national constitution, city government remained very much as it was during colonial days. One important difference which should be noted, however, is the change in the charter-granting power. Charters were granted by the state legislatures where they had been previously granted by the governors. This made a fundamental change

[1]Munro, W. B., The Government of American Cities, p. 4.

in the meaning of the charter and of city government. The charters of colonial days were in reality a contract between a city and its governor. Now the charter became a state statute and like all state laws could be changed only by the state legislature. This marks the beginning of state supremacy over the cities.

The next general change in city government came as a result of the success of the national constitution. It was reasoned that as this form of government was a success in the nation and also in the states, it would no doubt work as well in cities. As a result we find that the new charters were patterned after the national constitution. A mayor, who was elected by the people and given some power, and a bicameral legislative body was the arrangement. These charters were very much in evidence at the time of the civil war. However, it was during this period that, in order to correct the evils which were running rampant through the city governments, the state legislatures added the plan of government by boards. This plan developed very rapidly during the war and the reconstruction period. It reduced the powers of the council and the mayor and all other municipal officers. In fact every function of city government was more or less under a board that was authorized by the state. Thus we had the police board, fire board, water board and many other similar boards.

The board type of government persisted until about 1880 and then the tide of opinion concerning municipal government took a radical turn. The result was what is known as the "mayor" type of city government. Instead of a great many independent boards, each working as it saw fit, the government was largely centralized in the mayor. In fact the mayor was given the right in many cities, to remove at will the heads of all departments. This strong

"mayor" type of city government still exists in a great many American cities. Since the beginning of the present century two new types of city government have developed and are being widely adopted by American cities. These are (1) the commission form and (2) the city manager form. In both types the power is centralized and a few individuals are held responsible for the government. In the former type the voters elect a small group of men as commissioners and each commissioner acts as the head of a large department. One commissioner is usually selected as chief executive. In the city manager plan a manager is engaged to run the city, much the same as a corporation might employ a man to run a factory.

The most interesting point for our consideration in the above brief sketch is, that during all these recent changes in municipal government the board of education is the only board that has continued its existence. The legislatures in the various states have granted new city charters in which provisions for the numerous special boards have been omitted, but in almost one hundred per cent of the cases the board of education has been retained. Why has this been true? Why not have the mayor appoint a man to run the schools as he appoints the chief of police? Why have state legislatures made an entirely different arrangement for education?

The theory of American government and American education furnishes the answers to the above questions. Fire protection, street cleaning, garbage disposal and all other functions of a purely local nature have been made municipal functions. These duties and responsibilities are delegated to the city by the state. However, education is not and never has been a municipal function.[1] Education has re-

[1]A recent law in Texas makes education a municipal function but as yet this law has not been tested in any court.

mained a function of the state and is so declared in state constitutions and so ruled in state courts. Reference to the court decisions given in Chapter III will make this point clear.

Outside the purely legal aspect of the issue there is another reason for putting education in the hands of a board instead of a single commissioner or an officer appointed by the mayor. This plan keeps the schools free from much of the influence of politics. In the majority of cities where the school boards are elected, they are elected at large on a nonpartisan, general ticket. It is believed that it is thereby possible to get a much higher grade of citizen to serve the schools. Thus Munro says:

> ".....civic clubs and organizations are usually ready to take a hand in securing the right type of candidate for the school board, even though they refuse to be drawn into the campaign for mayor and councilmen."[1]

and Goodnow, in his discussion of the board method of school administration, also says:

> "This has had the result, as every one knows, of allowing politics, that is state and nation politics, to have much less influence over the schools than they have over the other branches of city administration."[2]

It is highly significant in the study of the control of city school finances to know that the schools of our cities are in general under the control of boards of education. It is also important to note that this is because (1) this arrangement keeps politics out of the schools, and (2) the nature of public education in America is such that it cannot well be treated as a purely municipal function.

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[1]Munro, W. B., Municipal Administration, p. 364.

[2]Goodnow, F. G., Municipal Problems, p. 270.

CHAPTER II.

THE PROBLEM OF FINANCIAL CONTROL.

It was noted in Chapter I that the board form of government, for American public schools, is almost universal.[1] However, these boards do not have equal authority in the control of education. In the matter of finances the range of power is very wide. In fact these powers range from complete authority in cities like Philadelphia to very little real control as in Baltimore.

In general there are two methods of controlling city school finances, (1) independent control by the board of education and (2) control in which the municipal government has almost complete authority. The former is generally known as fiscal independence and the latter as fiscal dependence. In fiscally independent city school districts the board of education has power to compile and adopt its own budget, levy its own tax or cause some other authority to levy under its direction, and expend the money as it deems right and proper. In fiscally dependent city school districts the board of education must submit its budget estimate to the municipal authorities, who revise and change it as they may desire and then it becomes a part of the regular city tax budget. School moneys thus raised are kept in the city treasury and paid out through the same channels as other city expenditures.

The two types of financial control explained above are the extremes. Between the independent and dependent types a great many intermediate forms are to be found. Thus in Boston the board of education is fiscally independent, but the budget

[1]St. Paul, Minnesota, Chattanooga, Tennessee and a very few other cities do not have school boards.

must be reviewed by the mayor. However, the budget can be passed over his veto by a three-fourths vote of the board of education.[1] In Cleveland the schools have no connection with the municipal government, but the budget is reviewed by a county budget commission.[2] Other intermediate types of control are to be found in Oklahoma, Michigan, Massachusetts and other states.[3]

The question as to which method of control is best, has been discussed for many years. In general the authorities on municipal government favor fiscal dependence for city school districts, and in general the present-day authorities in educational administration favor fiscal independence. The remainder of this chapter will be given to an analysis of the opinions of the best authorities in the two fields.

AUTHORITIES ON MUNICIPAL GOVERNMENT.

A careful perusal of the literature in the field of municipal government indicates, if one can judge by the frequency of quotations, that Munro of Harvard, Goodnow of Johns Hopkins and James of Texas are among the most eminent men in this field.[4] All three men refer to education as a "branch of the city government."

JAMES, H. G.

James has written a practical volume in which he gives in some detail his ideal plan for a city government. He makes the following provision for a department of education:

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[1]See Acts and Resolves of Mass., 1898, Chapter 400, Section 2.

[2]See Class Three in Chapter VI, p. 50.

[3]For a full description of many other classes see Chapter VI, p. 44.

[4]If it were possible to do so in a brief space, McBain, Fairlie, Bruére, Cleveland, Beard and others should be mentioned.

"Sec. 7. There shall be six administrative departments, as follows: Law, Engineering, Health, Safety and Welfare, Education, and Finance. Sec. 8. At the head of each department there shall be a director. This director shall in each case be appointed by and removed by the mayor, under the limitations hereinafter prescribed."[1]

The above plan deals with education exactly as it deals with other "administrative departments." James classes education as a function of the municipal government and places it under the control of a single director. In giving a director of education as much authority, in the management of the schools, as the chief of police has in the management of his department, a dangerous situation is created. A salaried school director, giving all of his time to the school system, will without doubt assume duties that are better performed by professional school men. The best school authorities of the day agree that the board of education should be a lay organization and its chief function to legislate on the policies presented by the professional officers it appoints.[2] San Francisco became dissatisfied with its school organization and recently amended its charter,[3] doing away with its four paid "school directors" that were required to give full time to the schools, and substituted an unpaid board of laymen. Sacramento, California, has recently changed from a director to a lay board of education.

The cities having school directors, as suggested by Dr. James, are so few and the plan has been established for such a short time that it is impossible as yet to determine the ultimate success of the plan. It is impossible to separate the influence of the previous plan of government from the present situation. A school system that has developed to a

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[1]James, H. G., Applied City Government, p. 74.
[2]See Cubberley, E. P., Public School Administration.
[3]November 1920.

high degree of efficiency in building good buildings, providing ample playgrounds and employing well-trained teachers is slow to deteriorate. Hence, to measure the present educational efficiency of a city school system that has been under the control of a school director for a few years, would not adequately measure the efficiency of that type of government. This will be made more evident when the index for city school systems is discussed in Chapter VII. It is significant to note that no city school system under the control of a school director, furnished the data asked for in the three inquiries of the National Committee for Chamber of Commerce Co-operation with the Public Schools.[1]

MUNRO, W. B.

There is no doubt as to where Munro would place the control of the schools, for he speaks of keeping education in its "proper place" as an "integral part of the scheme of municipal administration."[2]

In his discussion of the board of education as it is found in American cities Munro says:

"The welfare of the common schools is a matter which comes so close to the home of every citizen that it should never be difficult, so long as any vestige of public spirit remains in the community to get willing service on the board of education."[3]

Concerning the success of the board plan of school administration he says further:

"The branch of the American city administration that has in general been managed most efficiently, and has at the same time been most constantly in tune with public

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[1]For details concerning this committee and these inquiries see Appendix I, p. 88.

[2]Munro, W. B., Principles and Methods of Municipal Administration, p. 360.

[3]Ibid, p. 368.

opinion, is the school department,..... Yet this department has been almost everywhere intrusted to an unpaid board."[1]

As was stated above, Munro believes that the school board should be a part of the regular city administration, but he sees the danger in this type of control.

"On the other hand, when it becomes necessary for the board of education to present its annual estimates to the city council and allow them to be pared down as the council sees fit, there is always a grave danger that the schools will suffer in the interest of those other departments (such as streets and public works) in which the opportunities for political patronage are usually greater."[2]

In order to give the school board some protection, though fiscally dependent, Munro suggests the plan of a certain fixed minimum that the council must raise each year.

"This plan furnishes a convenient solution to the problem of keeping the department of education in its proper place as an integral part of our general scheme of municipal administration, while yet making sure that it will not unduly suffer from too great niggardliness at the hands of the regular city authorities."[3]

The greatest difficulty with the above plan is that the minimum is always placed so low that it proves of no real value to the schools.

One would be led to believe by the very fair description of the American school board given by Munro, that he would advocate that this board should be fiscally independent for he says:

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[1]Munro, W. B., The Government of American Cities, p. 256.

[2]Munro, W. B., Principles and Methods of Municipal Administration, p. 390.

[3]Ibid, p. 391.

"The body that controls the purse-strings will, in the long run, dictate the policy."[1]

If the school board is less political, more efficient and in tune with public opinion, and if the body that controls the money will eventually dictate the policy, it is strange that Munro does not take the next logical step of demanding that school finances be separated from control by the city government.

GOODNOW, F. J.

Dr. Frank J. Goodnow, President of Johns Hopkins University and formerly professor in the Law Department of Columbia University, is regarded as one of the best authorities on municipal government. Dr. Goodnow has also worked in the field of educational administration, and was one of two men chosen to make a study of the administration of the schools of New York City in 1913. He prefers fiscal dependence for city school districts as can be easily noted from his books in which he refers to education as being a branch of the city government.

Special reference will be made here to his late book on municipal government[2] which was written with the assistance of Dr. Frank G. Bates. This edition is a revision of an earlier book. It should also be noted that in the preface it is stated that an effort has been made to bring the text abreast of the times by "a revision of the statement of fact."

A reading of the chapter on educational administration in the book referred to above, reveals a great many inaccuracies. A few illustrations will make this point clear.

In his discussion of boards of education and the control of the schools he says:

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[1]Munro, W. B., Principles and Methods of Municipal Administration, p. 392.

[2]Goodnow, F. J., Municipal Government (1919).

"In only one city of importance, namely, Buffalo, is the matter in the charge of the city council. In this city a committee of the council performs the duties which in most of the cities of the United States are attended to by the school-board."[1]

The (1916) charter under which Buffalo was operating at that time is still in force and provides for a board of education and a superintendent of schools to be elected by the city council.[2] The charter attempted to give the city council these and other educational powers but they are nullified by the laws of the state. In fact, the school board is now appointed by the mayor with the confirmation of the council.

"In any other city of the state, members of the board of education shall be appointed from the city at large by the mayor except as otherwise provided herein, but in a city having a population of four hundred thousand or more and less than one million, such appointment shall be made subject to confirmation by the council—appointed as herein provided for five years."[3]

The Buffalo school board is required by law to make its budget and submit it to the city council as are other fiscally dependent school boards.

After these funds have been credited to the board of education the city loses all control of them for the law provides that:

"Such funds shall be disbursed only by authority of the board of education and upon written orders drawn on the city treasurer—such orders shall be signed by the superintendent of schools and the secretary of the board of education or such other officers as the board may authorize."[4]

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[1]Goodnow, F. J., Municipal Government, p. 347.

[2]Buffalo City Charter, Section 290 (1916).

[3]New York State Education Laws, Section 866 No. 5.

[4]Ibid, Section 880 No. 2. (The correctness of these and all other laws quoted were certified to by school officials of the city in question.)

In his discussion of fiscal dependence, Goodnow uses the following cities as examples of school boards that are fiscally dependent: "Chicago, Philadelphia, San Francisco, Milwaukee, Newark, Louisville, Providence, St. Paul and other cities."[1] As a matter of fact a majority of the cities given above have fiscally independent school boards.[2]

It is also interesting to compare the statements made by Goodnow concerning the school boards of Philadelphia and Pittsburgh, with the state laws.[3] The statements made concerning New Orleans and Indianapolis do not correspond with the laws of those states.

It is unfortunate that such an eminent authority in this field should base his conclusions concerning schools upon the inaccurate evidence presented in this book.

The most noteworthy conclusion that Dr. Goodnow reached in this chapter is as follows:

"When taken together with the other developments in school administration, it cannot fail to leave the impression that the school board is succumbing to the same influence that destroyed the city council, and that in time there will be a school department with a single commissioner at its head, having toward the school department about the same powers and duties that the single commissioner or other executive department head has toward his department."[4]

The above prophecy was evidently written many years ago, because it is also found in the 1904 edi-

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[1]Goodnow, F. J., Municipal Government, p. 347.

[2]Illinois State School Laws, Section 1 No. 135. Pennsylvania State School Laws, Section 524, Class Eight, Chapter VI. Class Three, Chapter VI. San Francisco Charter Amendment, Adopted November, 1920.

[3]Pennsylvania State School Laws, Section 202.

[4]Goodnow, F. J., Municipal Government, p. 351 and City Government in the United States (1904) p. 271.

tion of "City Government in the United States" as well as in the chapter under discussion. It can be understood why such a prediction was made in 1904 when the wave of commission government had just started, but why it is reaffirmed fifteen years later, with so little evidence to support it, is not as easily understood.

AUTHORITIES ON EDUCATIONAL ADMINISTRATION.

The position of the Department of Educational Administration of Teachers College, Columbia University is well expressed by Strayer and Engelhardt in the following statement:

"The city board of education should have the right, within certain limits, to levy taxes in support of education and should have complete control of all moneys, whether raised by local taxation or received from state funds. To give the control of school funds to a local city government is to hamper the board of education in the development of the school system of the city. To give to the local board of estimate and apportionment the control of school moneys will often result in an attempt to divert school funds to other purposes. The rewards to the politician or to the political machine are very much more apparent through the spending of money in other city departments than in the field of education. . . . . On the whole, those cities in which the board of education has enjoyed fiscal independence, has been able to levy taxes, and administer the funds available for education have made much greater progress and maintained higher standards of public education than are to be found in the communities working under the other form of control."[1]

Dr. E. P. Cubberley of Stanford University, another leader in this field, is much in favor of fiscal independence for city school districts. He says;

"One important step in the elimination of politics from city school administration is the almost complete separation of the school department from the municipal government."[2]

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[1]Strayer, G. D., and Engelhardt, N. L., The Classroom Teacher, p. 29.

[2]Cubberley, E. P., Public School Administration, p. 104.

"Because the student of education administration does appreciate these differences, and because he knows, from the experience of cities generally, how easy it is to subordinate educational efficiency to political expediency, he does not favor any more connection between the city government and the school department than is absolutely necessary."[1]

"The experience of our American cities indicates clearly the desirability of removing the tax-determining power for the schools from the control of the city council, and of placing it, within certain legal limits to be fixed by the legislature, with the school authorities for determination,..... The results have been uniformly good in those cities where such powers have been transferred to the school authorities, and the schools of such cities have, in general, been able to make better progress than in those cities where the school department still remains a branch of the city government.[2]

The above quotations make the position of Cubberley very clear and definite.

It is apparent from the subject matter of this chapter that there is a sharp division between the experts in municipal administration and the experts in educational administration, concerning the advisability of fiscal independence for city school districts.

The following chapter will take up the legal aspect of the question.

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[1]Cubberley, E. P., Public School Administration, p. 104.
[2]Ibid, p. 412.

CHAPTER III.

THE LEGAL BASIS OF FINANCIAL CONTROL.

A study of the arguments given for and against fiscal independence reveals the fact that the legal status of American city schools is the main point of divergence.

Those favoring fiscal dependence for city school systems repeatedly refer to the schools as the "department," and look upon education in the same light as fire protection or police powers. The school organization to them has the same legal basis as the organization of the health department or any other department of the city. This has always been the main basis of their contention. This is either legally true or false. If it is true, fiscal dependence is the proper method of controlling city school finance, if it is not true then the opposite must be the case.

Those who favor fiscal independence for city school systems maintain that education is a state and not a municipal function. The school organization is not a branch or department of the city government but a separate and distinct organization. They further maintain that taxes for schools cannot be properly classed as "municipal" taxes, and that as the taxing power comes from the state it is lawful and right that the state should give to both the city government and the school board the right to levy and collect taxes.

This problem has been the subject of decisions, both in lower and supreme courts in almost every state in the union. A few of these decisions have been selected at random to show the general idea established.

In the Smith v. School Trustees case, (141

North Carolina 143) the supreme court ruled, concerning school districts:

"They are in essence, local branches of the State government, though clothed in a corporate form in order that they may the better perform the duties imposed upon them."

This was quoted by the court from "Municipal Corporations" by Abbott.

In the case before the Arkansas Supreme Court, the Atchison, T. & S. F. Ry. Co. v. State (28 Ark. 94), the court ruled that:

"The mandate of the Constitution to establish and maintain public schools through the State is directed to the Legislature of the entire State, and not to any of the political subdivisions of the State."

Again we have in the case, State, et rel., v. Freeman et al., Commissioners of Elk County Kansas, (61 Kan. 90), before the Kansas supreme court:

"The matter of education is one of public interest which concerns all the people of the state, and is therefore subject to the control of the legislature."

The supreme court of Connecticut in the case of Walsh v. Hine (59 Conn. 50) held that:

"From the earliest period of the history of Connecticut the duty of providing for the education of children was regarded as a duty resting upon the state—a governmental duty."

In the case, Associated Schools of Independent District No. 63 of Hector v. School District No. 83 of Reville County (12 Minn. 254) which was tried before the Supreme Court of Minnesota, the court ruled that,

"The maintenance of public schools is a matter, not of local, but of state concern."

In the State, ex rel., v. Howarth (122 Ind. 462) case, heard before the Supreme Court of Indiana the court ruled:

"Every school that has been established owes its existence to legislation; and every school officer owes his authority to the statute."

In Homer, Louisiana, the city levied a tax to support a high school. The legality of this action was tested before the State Supreme Court. (19

Southern Reporter 271). The court ruled that a municipal government could not establish a school for:

"A high school is not essential to municipal government. A system of education is not a part of municipal regulation, and the power of the corporation to establish a public school cannot be inferred from any power necessary for municipal existence."

The supreme court of Kansas decided that when a city extends its limits it does not give the school district, coextensive with that city, control over the schools of the annexed territory. (45 Kan. 560) The court said in this case:

"We cannot say that the board of education of the city became the owner of the school house by reason of its being taken into the city by an extension of the limits."

The best known and most famous decision is, without doubt, the one rendered in the Gunnison case in New York State. (176 New York 13).

"It is apparent from the general drift of the argument that the learned counsel for the defendent is of the opinion that the employment of the teachers in the public schools, and the general conduct and management of the schools, is a city function in the same sense as it is in the care of the streets, or the employment of police, and the payment of their salaries and compensation; but that view of the relations of the city to public education, if entertained is an obvious mistake. The city cannot rent, build or buy a schoolhouse..... All this results from the settled policy of the State from an early date to divorce the business of public education from all other municipal interests and business, and to take charge of it, as a peculiar and separate function, through agencies of its own selection, and immediately subject and responsible to its own control....."

The fact that taxation is a function of the state and that the state may delegate this power to certain subdivisions of the state, is clearly pointed out in the case of, Sharpless v. Philadelphia (41 Pa. 147, 181).

"The legislature may provide agencies through whom to exercise the power of taxation,..... Accordingly, from the beginning of our government, the legislature has divided the state into counties, townships, school districts, boroughs, and cities and has provided for the appointment or election of certain tax officers. This is not so much a DELEGATION OF THE POWER OF TAXATION.....AS AN EXERCISE

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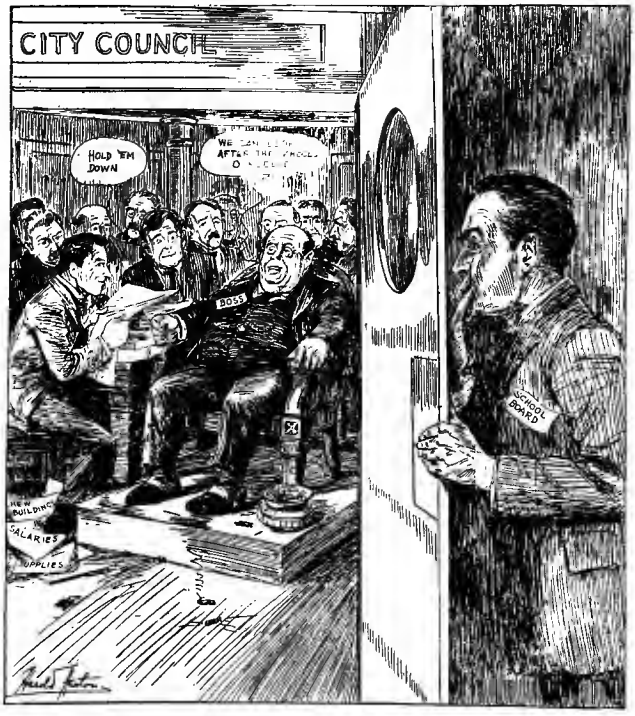

WHEN THE SCHOOL BOARD IS NOT FINANCIALLY INDEPENDENT

OF IT THROUGH AND BY MEANS OF CHOSEN AGENCIES.*

They, (the legislature) are obliged to act through chosen agencies when providing for the revenues of the state..... though the power that controls them resides in the legislature."

The last decision to be quoted also deals with the subject of taxation. The case came up in the Supreme Court of Kentucky (8 Bush, Kentucky Reports 607). In speaking of the taxes collected in Henderson, Ky., for the support of public schools the court ruled:

"This can hardly be deemed a city or municipal tax. The tax is levied and collected by the municipal authorities because they are exofficio common school officers for this particular district. The tax itself is a common school tax and NOT A MUNICIPAL ASSESSMENT IN ANY SENSE."*

In the 1919 edition of Ruling Case Law, is a discussion of the various decisions that define school districts in American cities. The following is the conclusion reached:

"School districts are purely creatures of state and derive their powers by delegation from the state."[1]

A careful search of the supreme court decisions of the different states covering a period of years, failed to bring to light a decision in which the court ruled that a city school system was a branch of a city government or that it derived any power from such city government. The unanimous decision of the courts of the land is that our school system is a creature of the state, that education is a state function, that taxation is also a state function, and that the taxation powers a city government has are derived from the state. A state can legally give to a municipal government and a school district, extending over the same territory, the power to levy and collect taxes because both of them are but exercising a delegated state function in so doing.

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*The capitalization is mine.

[1]Ruling Case Law, 1919, p. 262.

City Councils more than any other public bodies retard school board work.—(School Board Journal, April, 1900.)

CHAPTER IV.

THE PROBLEM AS IT HAS BEEN DEALT WITH IN THE PAST.

There is no doubt but that there is a problem to solve in the case under consideration. Both fiscal independence and fiscal dependence cannot be the proper relationship to exist between a city school district and the municipal government. The attempts that have been made to solve this problem will be given below.

It is evident that this problem has been attracting attention for many years for the cartoon given on page 26 was published in the School Board Journal twenty-one years ago. It is also interesting to note that the cartoon given on page 24 was published in the May, 1921 issue of the same magazine. Fiscal independence vs. fiscal dependence has been widely discussed during the intervening years.

A careful study has been made of the literature of school finance. The indication is that although much has been believed, written and said in favor of fiscal independence, no one has ever shown by scientific evidence that fiscal independence is a necessary corollary of educational efficiency. It is true that many cases of graft and incompetency have been pointed out in cities where the schools were fiscally dependent and good points indicated in the opposite type. However, in spite of this, most municipal authorities of today as well as of yesterday maintain that schools can be most economically and efficiently run if they are fiscally dependent.

A notable discussion of the subject under consideration took place in Philadelphia in 1900. The chief speakers were Professor J. T. Young and Professor L. S. Rowe, both of the University of Pennsylvania.

Professor Rowe presented the case for fiscal independence. He had written to seventeen school superintendents asking for their opinions on the matter, and he reported that every one favored fiscal independence. He also said:

"In every case in which school authorities enjoy independent powers of taxation, the opinions of such authorities are strongly in favor of the retention of the system. On the other hand, wherever appropriations are in the hands of local representative assembly we find considerable agitation in favor of independent powers."[1]

Furthermore, he presented data from a group of cities over a series of years to show that financially independent cities received more adequate support.

The arguments advanced by Professor Rowe can be summed up in two statements, (1) independent cities get more money and (2) the school superintendents prefer this type of control.

Professor Young, presenting the case for fiscal dependence said:

"In the other system (Independence) the school management is taken out of the sphere of city government entirely and given to a series of independent authorities with a separate legal and administrative basis. At present the second plan is still in operation in some of our large cities and has proved detrimental to the interest of all concerned.

.....

Now this method may be well suited to the needs of a rural government, but it is thoroughly impracticable for a large city."

"In the face of such consideration can it reasonably be said that the department of education is an exception to all other known facts? Can it be maintained that there is something so peculiar about ordinary school management as to require a form of organization which has been abolished in nearly all other branches of city government?"[1]

"The whole tendency of the time is, as has been said, toward a more practical, definite fixing of responsibility, and this can only be secured by increasing the power of the city executives."[1]

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[1]Annals of the American Academy of Political and Social Science, March 1900.

Two of his conclusions are worth quoting in this connection:

"1st. The school system should be a bureau or department of the city administration and should be directed, as such departments are, not by forty large boards but by a single official.....

4th. The head of the department and the board should be chosen by the Mayor."[1]

If the arguments given by Rowe and Young were not dated 1900 it could be readily believed that they had been published in a magazine or newspaper during the current year.

St. Louis, Missouri, has received more publicity than any other city, as an example of the benefits of fiscal independence. C. L. Eliot, once President of the St. Louis School Board, speaking before the N. E. A. in 1905 said:

"My experience with the St. Louis law, and its operation, leads me to believe that the best results can be obtained in all municipal affairs by clothing men with ample power, fully commensurate with the purposes of their offices and holding them to full responsibility for the results obtained."[2]

"There is nothing which a corrupt body of men, intent upon making public affairs a means for personal ends, more thoroughly desires than a complication of law which hides the responsibility. Bureaucracy and red-tape are the meat upon which corruption feeds."[2]

Edward C. Elliott, writing in the School Review in 1903, concerning the St. Louis situation said:

"The city has even attained a bad eminence of late years through the exposition of gross municipal corruption. That during the same period of time the school administration should have been not only exempt from the evil which has permeated the politics of the city but has attained something of celebrity throughout the United States for exceptional

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[1]Annals of the American Academy of Political and Social Science, March 1900.

[2]N. E. A., Proceedings for 1905, p. 223.

merit, requires an explanation which it is the object of this paper to furnish."[1]

There are other articles on this subject that will not be referred to, because they are of no practical value in this study as they contribute no new elements. They are largely made up of statements of opinion. However, there are exceptions to the above statement, i. e., the surveys made of New York City.

Professor E. C. Moore made a careful survey of the New York situation in 1911. He showed in a great many instances that the schools were compelled to do without supplies and services that are considered educationally necessary, because of lack of funds. He concludes as a result of this investigation that:

"As every division of the education service is hampered and hindered by shortage of funds, and by lack of control on the part of the board of education of the funds appropriated for school purposes, the board should control its own funds in order to administer the school affairs of the city."[2]

"External hindrances to the administration of the schools of the city should be removed by carrying out the established policy of the state to 'separate public education and the control and management of the schools from all other municipal interests and business,' by making the board of education independent and giving it the power to determine the amount of money needed for school purposes as has been done in other leading cities of the United States....."[2]

Two years later the Board of Estimate and Apportionment authorized another survey of the situation by Dr. F. J. Goodnow and Dr. F. C. Howe. Their findings were directly opposed to those of Professor Moore. They found that the city government had been liberal with the schools, for during the preceding ten years, while the average attendance had increased only forty per cent, the current budget had increased sixty per cent and the invest-

[1] School Review, 1903, page 465.
[2] Moore, E. C., How New York City Administers Its Schools, p. 233.

ment in plants one hundred and twenty-eight per cent. The following quotations from their report will make their position clear:

"Under the conditions which prevail in New York we do not feel that it would be safe, even in the case of such an important and at the same time such a special branch of administration as education, to decentralize the present financial control of the schools. Only a conviction based on long experience, that the interests of the schools had been sacrificed by the present system, would justify a grant to the school authorities of greater independence of the financial authorities of the cities than they now by law possess. Such a conviction may not properly be held by any one who reviews with care the history of the past ten years, during which the present arrangement has been in force."[1]

"The present financial control of the Board of Estimate and Apportionment cannot be charged with causing the interest of the schools to suffer, except when judged by the demands of the educational enthusiast who fails, in his desire to realize his ideals, to give sufficient consideration either to the financial resources of the city or to the demands on those resources made in other directions."[1]

"Concentration in the Board of Estimate and Apportionment of financial responsibility and control of expenditure for sites and school buildings seems to us advisable for a further reason."[1]

"By such an arrangement the Board of Education would be the policy-proposing body, subject to the approval of the Board of Estimate and Apportionment, as at present."[1]

It is extremely significant to note that after examining the same conditions in the same city at very nearly the same time, two authorities should reach such diametrically opposed conclusions. The answer may, perhaps, be found in the previous ideas of the investigators. Moore noted all the shortcomings of the New York Schools and thought that fiscal independence was the remedy, while Goodnow and Howe maintained that the present system was the best for all concerned.

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[1]Educational Investigation Committee on School Inquiry, City of New York, Vol., III. pp. 26, 27 and 28.

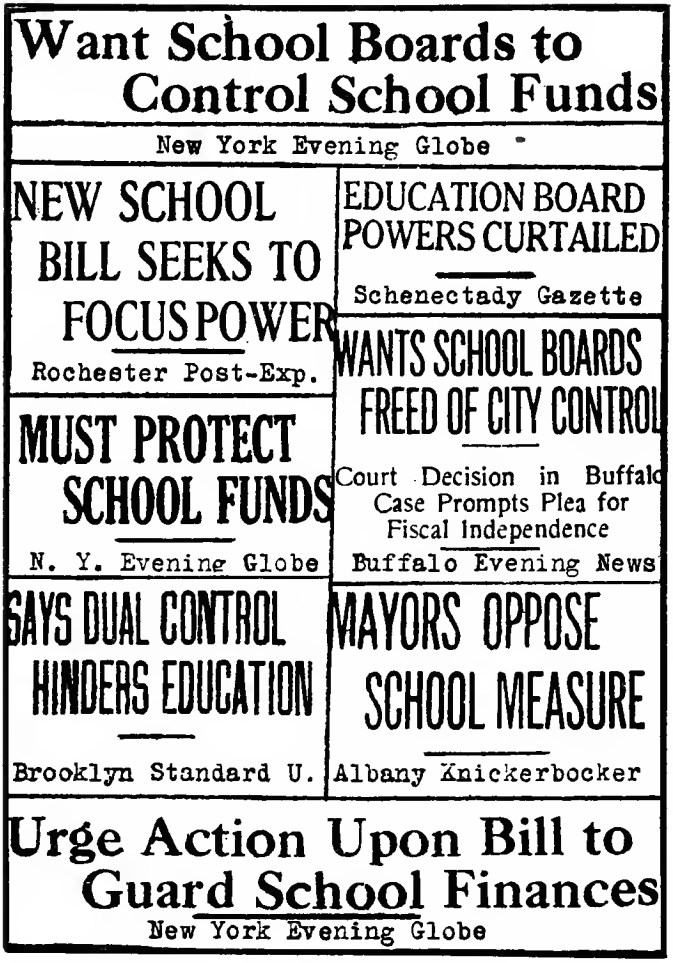

Plate 1
Some of the publicity given to the subject of fiscal control of schools. (From April, 1921, newspapers.)

The foregoing situation illustrates very well the present condition and status of opinion concerning fiscal independence vs., fiscal dependence. Those who believe in either type, for any particular city, can find reasonable arguments to uphold their case. What this field of controversy needs more than anything else, is data upon which a general conclusion can be reached, and upheld. It is the purpose of the succeeding chapters to furnish such data.

CHAPTER V.

THE PRESENT STATUS OF THE PROBLEM OF FINANCIAL CONTROL.

In Table I all American cities having a population of 250,000 or more are given, together with their method of fiscal control of schools.

Only seven of these twenty-four city school systems are completely (or nearly so) dependent upon the city government in the control of school finances. It is also interesting to compare this list with a like compilation made by Rollins[1] in 1902 in which he found that fourteen of the same list were fiscally dependent upon the city government. The tendency is toward complete fiscal independence for American city school systems.

An effort has been made to discover how the subject of financial control of schools is viewed by the citizens and the press. A responsible news-clipping bureau was engaged to clip, as far as possible, all news items and editorials occurring in the press of the country, which were concerned with school finance. In the month that this bureau was engaged in this work it clipped over one hundred articles. A large majority of these clippings were from cities in which the municipal government had charge of the school finances and only a few scattering ones from those in which the schools were fiscally independent. In the following pages many of these are presented in order to show that the problem of financial control of city schools is one that is very much before the public, and one that must be finally solved in the near future.

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[1]Rollins, Frank, School Administration in Municipal Government, p. 24.

Table I

Data concerning fiscal control of schools in all American cities having a population of 250,000 or more.

City	Number of members on school board.	Elected? Appointed by whom?	What authority has the city government over the finances of the schools?
New York, N. Y..	7	Mayor	Almost complete authority.[1]
Chicago, Ill.	11	Mayor	None.
Philadelphia, Pa..	15	Judges[2]	None.
Detroit, Mich.....	7	Mayor	Budget dependent upon city.
Cleveland, Ohio...	7	Elected	None.
St. Louis, Mo	12	Elected	None.
Boston, Mass.....	5	Elected	Almost none.[3]
Baltimore, Md.....	9	Mayor	Complete authority.[4]
Pittsburgh, Pa....	15	Judges[2]	None.
Los Angeles, Cal..	7	Elected	None.
San Francisco, Cal.	7	Elected	None.[5]
Buffalo, N. Y.....	5	Mayor	Budget dependent upon city.[6]
Milwaukee, Wis...	15	Elected	Budget dependent upon city.
Newark, N. J.....	9	Mayor	Divided Authority.[7]
Cincinnati, Ohio...	7	Elected	None.
New Orleans, La..	5	Elected	None.
Minneapolis, Minn.	7	Elected	Budget dependent upon city.[8]
Kansas City, Mo...	6	Elected	None.
Seattle, Wash.....	5	Elected	None.
Indianapolis, Ind..	5	Elected	None.
Jersey City, N. J..	9	Mayor	Divided Authority.[7]
Rochester, N. Y...	5	Elected	Budget dependent upon city.
Portland, Ore.....	5	Elected	None.
Denver, Colo.....	7	Elected	None.

Washington, D. C., is not included in the above list because of special method of financing the schools.

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[1]See class nine, Chapter VI, p. 61.

[2]Judges of the Court of Common Pleas of the County.

[3]The Mayor may veto the budget but the board of education can pass it over his veto by a three-fourths vote.

[4]Most dependent of all large cities. See City Charter, Sections 6, 99 and 36.

[5]See charter as amended November 1920.

[6]School Board has right to fix salaries of teachers under state law.

[7]See class eight, Chapter VI, p. 58.

[8]See new charter adopted November 1920.

It was noted that New York City schools are fiscally dependent and it appears that the subject is always before the public in one form or another. The following item from the New York Evening Globe of April 18, 1921, illustrates the case in point;

"The problem of the schools of the city is a difficult one and one very close to the hearts of the people. Something should be done to avoid in the future the bickering between the Board of Education and the Board of Estimate, from which the money comes, that has been so familiar in the past. Shall the school board be elected? Shall it have separate tax power? Shall it have an independent budget? Shall the legislature continue to fix salaries in the schools?"

"There is a plan to make the Board of Education elective, and thus directly responsible to the people, and to give them all authority regarding the schools, including the right of every kind of expenditure within a percentage of limitation. This would eliminate the divided responsibility and the consequent friction."

The same problem was dealt with in the April 2 issue of the Brooklyn Times as follows;

"One of the great hindrances to the cause of public education in the City of New York is, as is well recognized, the dual control of school finances. This has been, particularly since the year 1898, a constant source of controversy and dispute. The present Controller of the city declared in a speech delivered last year in the Washington Irving High School that final responsibility for the schools rests with the Board of Estimate and Apportionment of which he is a member."

Although the city school board of Rochester, New York is elected by the people the schools are fiscally dependent. The Rochester Post-Express on April 4, 1921, expressed the situation for Rochester in a most excellent manner when it declared that;

"The fundamental need of our public school system today is centralized responsibility. The only way of satisfactorily meeting this need is to make the Board of Education, already elected by the people, directly responsible to the people. Until this need is met, no permanently sound system of financing our schools will be possible, and the welfare of a

public school system like the welfare of an industry must rest upon a sound economic basis."

"The constitution of the state of New York declares that: 'The legislature shall provide for the maintenance and support of a system of free common schools wherein all the children of this state may be educated.' No similar responsibility is placed upon the legislature by the constitution of the state with reference to any other administrative function of government."

Another excellent example of the newspaper man's idea of the importance of the question is to be found in the March 17, 1921, issue of the Buffalo Evening News. This editorial was written as the result of a cut in the school budget estimate by the municipal authorities of Buffalo.

"The regretful thing is that there has been any cut in the estimate submitted by the board of education. Those who approach the matter of financial control of educational affairs with open mind are certain to come to the conclusion that it would be well if the school board were given complete authority. As it is, the board, acting on the expert advice of the school masters, is subject to the whim of the councilmen. Plans are made for improvements in this and that direction and they all come to naught if it happens that the councilmen, who can know little of educational requirements, do not see fit to give their approval. The Court of Appeals has ruled that under the charter, the board of education must submit its affairs to the council. As a result there is a cut of $631,403 in the board's estimate. This means a disruption of the whole educational plan..... It means curtailments and the deferring of betterments. And so it always will be as long as there is division of authority. It puts the schoolmasters in the position of choosing whether they will serve the interest of the board of education or the council. Let all responsibility and all authority rest either in one or the other body. The present situation is intolerable. It strikes at discipline, loyalty and efficiency."

During the 1921 session of the New York State Legislature a bill was introduced to make all dependent school districts independent. The discussions of the bill in the press of the state furnish one of the finest examples of arguments for and against fiscal independence, and also show the wide interest in the problem.

A letter written to Richard A. Searing of the State Teachers' Association by Superintendent of Schools, H. S. Weet of Rochester, and reported in the New York Evening Globe of April 4, gives a clear cut argument in favor of fiscal independence. In referring to the bill he writes:

"Our Board of Education is behind the measure first of all because it is strictly in accord with the general policy which the state legislature has always followed in the administration of the common schools. This policy in the thousands of school districts in the state of New York has been to have a trustee or a board of education elected by the people, administer school affairs within that district, and be directly responsible to the people for this administration. This is true in the ten thousand rural districts, in the seven or eight hundred union free school districts, and in all but about a dozen of the fifty-seven or fifty-eight cities in the state. This bill simply cuts this line clear through, eliminates these few exceptions and thereby applies the general administrative policy of the legislature in all cases."

"Our board is solidly behind this measure in the second place, because actual experience has shown the imperative need of centralizing responsibility in the work of administering the schools. Until this is done no sound system of financing our schools is possible, and in the last analysis the welfare of a public school system, like the welfare of an industry, must rest upon a sound economic basis. The bickerings between city authorities and boards of education, where this divided responsibility rests, grows out of this present unbusinesslike system which is unfair to city authorities as well as to boards of education. The outcome is a weakened community confidence because it is not possible to fix responsibility."

The opinion of Dr. Gilbert, Acting Commissioner of Education of New York State, as reported in the Buffalo Evening News of March 19, 1921, is as follows:

"The situation," Judge Gilbert declares, "demands remedial legislation. Boards of education should be directly responsible to the people whom they serve. There should be a separate school tax in every city in the state so that the people may know the cost of school administration."

"Such boards should be financially independent, having entire control of school expenditures, subject to such reason-

able checks through limitations and review as may properly be imposed. Legislation along these lines should be enacted at the earliest possible time."

The last two articles tend to indicate that the school men of the country are almost solidly behind the movement for complete fiscal independence for all city school systems.[1]

The main arguments against independence which were quoted in the press at this time, were from those who feared that the change would raise their taxes and cost them more money.

The United Real Estate Owners Association and the Real Estate Board, both of New York City, viewed the question of adequate funds for education as a question of taxation. Hence, their attitude is in favor of that type of control that will keep expenditures and taxes down to a minimum. The New York Times of April 16, 1921, published the following:

"The United Real Estate Owners Association sent a communication to the members of the Legislature urging them to vote against the bill. Among some of the objections given were:

'It makes the Board of Education a separate and distinct political subdivision of the State independent of and superior to and with all the present and even with greater powers than the city government.'

'It empowers the Board of Education to increase at will all the salaries of its teaching and other employes, which power the city government has not now got.' "

The following line from the New York Evening Globe for April 13, 1921, is also suggestive:

"Edward Doyle, for the Real Estate Board, warned the legislature not to go crazy over legislation and predicted higher rents if increase in school budgets were not halted."

Not only is this question before the public when it is before the legislature but in cities with dependent school boards it is before the public every year

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[1]In a group of 85 city superintendents, to whom this question was recently referred, 83 favored fiscal independence.

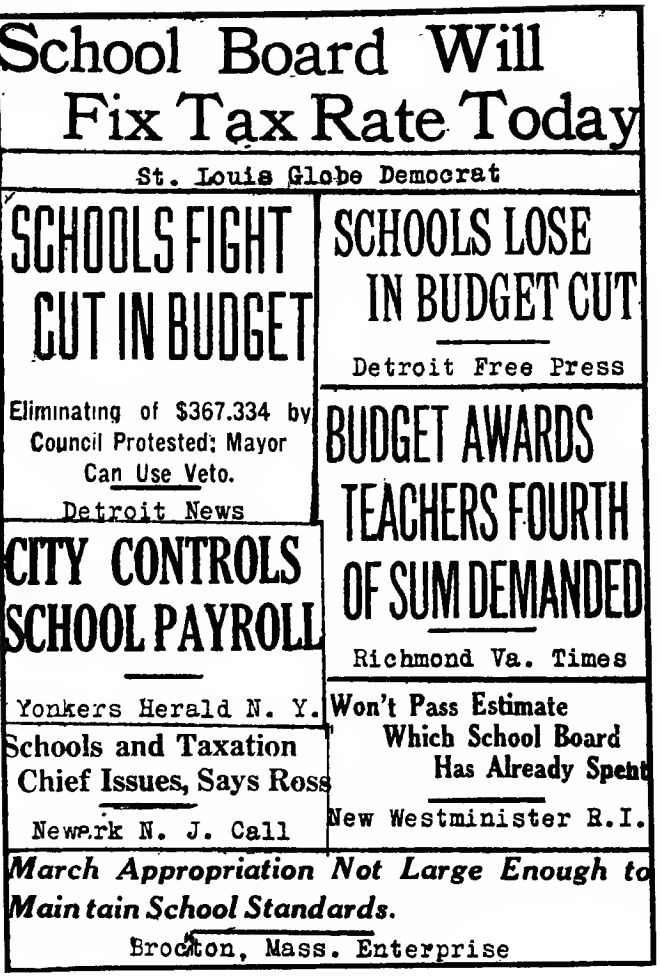

Plate 2

Publicity given to school finances in different cities. (April 1921.) The top heading is from a city with a fiscally independent school system. All others are from fiscally dependent systems.

at budget time. The newspaper headings given in plate 2, Page 40, were all clipped from papers in the same month (April 1921). The top one is from St. Louis, Missouri and shows the statement of a budget adoption in a fiscally independent city and all the others are from cities having fiscally dependent school systems.

Detroit, Michigan, having a fiscally dependent school system adopted its 1921-22 budget but according to the Detroit News of April 16, this was badly reduced by the city council.

"Protest against the Council's action in eliminating $367,334 from the public school budget was sent to Henry Steffens, Jr., controller, by Frank Cody, superintendent of schools, Friday afternoon.

"In cutting out $75,000 asked for substitute teachers, Mr. Cody stated the board would be compelled to set up a deficit or close rooms and send children home when the regular teachers were ill."

Other samples can be found in the public press of almost every dependent city particularly at budget adoption time. The following two quotations are press dispatches, the first one from Albion, New York dated March 31 and the other one from Westminister, Rhode Island dated March 22.

"Upon motion of Trustee Cramer the following amounts were deducted from the budget as presented: Items of repair, $500; item of fuel, $1,000; item of contingent, $1,000; total, $2,500, leaving a balance drawn $38,500."

"New Westminister, March 22—More trouble is brewing for the School Board. The City Council last evening declined to accept as part of the estimates for the current year a sum of $3000 to finish two additional rooms at the Spencer School."

The following quotation concerning Williamsport, Pennsylvania which has a fiscally independent school system, was taken from the 'Sun' for April 15, 1921, and is typical of the publicity in such cities:

"The Williamsport board of education at the regular monthly session held last evening boosted the tax levy for

this year up to nineteen mills, three mills higher than last year, and within one mill of the limit allowed by law."

There seems to be no doubt but that the question of the correct method of controlling city school finances is a live issue. At a sectional education meeting, called in New York early in 1921 by Commissioner Claxton, one entire session was taken up in a discussion of the question of finance. The case for fiscal independence was presented by Judge Dimner Beeber of Philadelphia, and the case for dependence by Comptroller Craig of New York City.

At the 1921 meeting of the Department of Superintendence of the National Education Association in Atlantic City, New Jersey, the question was referred to time and again as one of the most important problems of education.

The control of city school finances is a problem of vital importance, and is one that must be solved.

CHAPTER VI

DIFFERENT TYPES OF FINANCIAL CONTROL.

It was noted in the first chapter that there are two general methods of controlling city school finances. These two general methods being (1) independent control by a board of education and (2) dependent control in which the municipal government has the real authority. It was also pointed out that there are many intermediate types between these two extremes.

A careful analysis has been made of the state laws and charter provisions that give the legal bases for financing the schools of the cities under consideration.[1] This analysis has been made in order to discover necessary facts concerning the election and appointment of school board members and their powers in financial matters. It was also concerned with all regulations dealing with compiling the estimate, adopting the budget, levying taxes, and collecting and distributing school moneys.

From the above data it was found that the cities could be satisfactorily grouped into nine classes. It will be the purpose of the succeeding pages to explain these nine different types of financial control. All cities included in this study are classified in Table Alpha.[2] The numbers designating the type of financial control refer to the classes explained in this chapter.

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[1]For list of cities under consideration, method of selection and sources of data, see Appendix I, p. 88.

[2]See Appendix II, p. 99.

CLASS ONE

ELECTED SCHOOL BOARDS—FISCALLY INDEPENDENT.

This is by far the largest group. In fact, practically fifty per cent of the cities under consideration have this type of control.

The first important consideration in this class is that school boards are elected by the people. Unless otherwise indicated in Table Alpha,[1] this election is on a nonpartisan basis and members are elected from the city at large. A good example of the legal basis of such an election is the following law under which cities in the state of Washington elect their school boards.

"Each incorporated city in the state shall be comprised in one school district, and shall be under the control of one board of directors:....."[2]

"The directors of school districts of the first class shall consist of five members, who shall be known as the board of directors. They shall be elected by ballot by the qualified electors of the district, and shall hold their office for a term of three years....."[3]

The following example is taken from the Statutes of Missouri:

".....and the supervision and government of public schools and public school property therein shall be vested in a board of twelve members."[4]

"The members of such board of education shall be elected from such city at large on a general ticket....."[5]

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[1]Appendix II, p. 99.
[2]Washington State School Laws, Section 166.
[3]Ibid, Section 239.
[4]Missouri State Laws, Chapter 30, Section 540.
[5]Ibid, Chapter 30, Section 542.

Inasmuch as the laws which give the right to elect a school board are very much the same in all states, no more need be quoted here.

The second and most important consideration in this class is that the school boards are given power to levy and collect taxes. The following quotations taken from the laws of different states, show the type of statute under which fiscal independence is guaranteed to the schools.

".....the board of school directors in each school district in this Commonwealth shall be, and hereby is, vested with all the necessary authority and power annually to levy and collect, in such manner herein provided, the necessary taxes required, in addition to the annual State appropriation....."[1]

".....the school board in each district shall certify to the board of county commissioners a statement showing the aggregate amount, which, in the judgment of said school board, it is necessary to raise from the taxable property of said district,..... It shall thereupon be the duty of the county commissioners to levy,.....such rate, within the limits allowed by law, as will produce aggregate amount so certified."[2]

"The district school board of a school district of the first class shall have the power to levy a tax once each year upon all real and personal property in such district for the maintenance, operation and support of the public school system of said district."[3]

"The board of directors shall annually, at a meeting next preceding the annual tax levy for state and county purposes, report to the board of county commissioners an estimate of the amount of funds, in addition to estimated receipts from the state and county apportionments for said district, required for the support of the schools, the payment of interest upon all bonds etc.....and the county commissioners are hereby authorized and required to levy and collect such additional amount of funds, the same as other taxes:....."[4]

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[1]Pennsylvania State School Laws, Article IV, Section 402.
[2]Colorado State School Laws, Section 336.
[3]Oregon State School Laws, Section 299.
[4]Washington State School Laws, Section 257.

From the four quotations given from laws of four different states, it can be seen that there are two general schemes of fiscal independence. The laws of Pennsylvania and Oregon give to the school boards the right to levy a tax, while in Washington and Colorado the law requires another body to levy the amount of tax fixed by the school boards. Both classes are equally independent. The detailed method used by each city under consideration can be seen in Table Alpha.[1]

The third consideration in this class is the legal limitation on the amount of money that a school board may raise by taxation. In all states under consideration, the law fixes a limit of taxation which the school board must not exceed. This is fixed in many different ways as will be seen in the following legal quotations.

"The tax levied for school purposes in districts of the first class shall in no one year exceed one (1) per cent of the assessed value of all the taxable property in the district: Provided, That when any greater expenditure shall be deemed necessary in any one current school year by the directors, the question shall be submitted to a vote of the electors of the district—and if a majority of the electors voting thereon at said election shall be in favor of such additional tax, the entire amount so authorized shall be levied and collected. No levy, however, shall exceed two (2) per cent of all the taxable property of said district."[2]

"For school purposes in districts composed of cities, which have 100,000 inhabitants or more, the annual rate on property shall not exceed sixty cents on the hundred dollars valuation..... Provided, the aforesaid annual rates for school purposes may be increased in districts formed of cities and towns to an amount not to exceed one dollar on the hundred dollars valuation,..... On the condition that a majority of the voters who are taxpayers, voting at an election held to decide the question, vote for said increase."[3]

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[1]See Appendix II, p. 99.
[2]Washington State School Laws, Section 258.
[3]Missouri State Constitution, Article 10, Section 11.

"The total annual school tax levy, made in any one year by any school district of the first class, shall not be less than six mills, nor,.....shall the tax levy for the school year 1920 exceed seven mills, nor shall the tax levy for the school year 1921 or any year thereafter exceed eight mills...."[1]

".....are hereby so reduced as to prohibit the levying of a greater amount of revenue for any year hereafter than was levied the preceding year, plus five percent."[2]

If the above rate does not produce enough money the board may apply to the State Tax Commission. The Commission must investigate the case and

".....the said Commission may recommend an increased levy for such taxing district.....and such taxing district is authorized to make such excess levy not exceeding five mills on the dollar of valuation of such district;....."[3]

If the Commission refuses to grant the excess tax, or if five mills are not enough the question must be submitted to popular vote, and

"If three-fourths of the votes cast at any such election shall be in favor of the increased levy....., then the officers charged with levying taxes, may make such increased levy for the year voted upon and therafter the limitation of this act shall apply unless the increased levy for the particular year shall be voted at another election in like manner."[4]

The four quotations just given are typical of the different methods of limiting taxation for school purposes in fiscally independent cities.

The method used in the State of Washington is one of the most practicable for it sets a relatively high tax limitation and this rate may be doubled by a majority vote of the people, voting on the question.

A method that is less elastic, is that of Missouri in which the tax limit has been set by the Constitution and hence it is more difficult to change.

Another type is that given for the first class districts of Pennsylvania where the state laws fix not

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[1]Pennsylvania State School Laws, Section 524.
[2] [3] [4]Colorado State School Laws, Section 333.

only the maximum but the minimum rate of taxation.

The next type, and one of the poorest, is the Colorado plan where the revenues are held down to last year's levy plus five per cent, to be raised only by appeal as noted in the laws.

Other special limitations are noted in Table Alpha.[1]

After moneys have been raised for school purposes it is of minor importance who retains them. The real important point is the location of the authority to pay them out. Two laws are given below to show specimen methods of paying out school funds. It will be noted that they are very similar, in that full authority rests with the board of education. In fact, this operation for all fiscally independent cities is practically the same.

"The moneys of such school districts shall be paid out only upon warrants signed by the president, or a majority of the board of directors, and countersigned by the secretary. ....."[2]

"The auditor of the board shall issue all warrants for the payment of money from the school funds, but no warrant shall be issued for the payment of any claim until such claim has been allowed by the board and approved in writing by the business director;....."[3]

As this class is made up of those schools that are fiscally independent, and have school boards elected by the people, there is no division of authority. The school boards and their employees alone are held responsible for the expenditure of funds and the condition of the public schools.

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[1]See Appendix II, p. 99.
[2]Washington State School Laws, Section 249.
[3]Indiana State School Laws, Section 300.

CLASS TWO

APPOINTED SCHOOL BOARDS—FISCALLY INDEPENDENT.

As far as finances are concerned these cities have the same privileges as those in class one. In fact the only difference between the two is that in this class the school board members are appointed. This does not leave the school board completely responsible because the appointing officer also has an influence on the situation. It establishes a close connection between the schools and the city government for it is usually the Mayor or City Council that does the appointing.

The following laws that govern the school district of Chicago, Illinois are quoted as typical of this class. These cities are also limited in their tax rate as are the other independent cities, the limitations for Chicago being $1.20 per $100 for educational purposes and 66⅔ cents for building purposes.

"Each city having a population exceeding 100,000 inhabitants shall constitute one school district which shall maintain a thorough and efficient system of free schools, which shall be under the charge of a board of education, ...shall consist of eleven members, to be appointed by the mayor with the approval of the city council,.....for a term of five years."[1]

".....the city council of said city shall, upon the demand and under the direction of such board of education, annually levy all school taxes."[2]

"All moneys raised by taxation for school purposes, or received from the State common school fund, or from any other source for school purposes, shall be held by the city treasurer, exofficio, as school treasurer, in separate funds for school purposes, subject to the order of the board of education upon its warrants signed by its president and secretary and countersigned by the mayor and city comptroller."[3]

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[1]Illinois State School Laws, 1917. Section 1 No. 128.
[2][3]Illinois State School Laws, 1917. Section 1 No. 135.

CLASS THREE

ELECTED SCHOOL BOARDS—PARTIALLY INDEPENDENT.

This is a special group for the city school districts of California[1] that are included in this study. These school systems have elective school boards and in most functions are independent, but because of their dependence on county authorities for a part of their funds, they have been grouped in this special class.

The laws and charter provisions that govern Los Angeles are quoted as a sample.

"The government of the school department of the city of Los Angeles shall be vested in a Board of Education, to consist of seven members,....."[2]

This Board shall be "elected by the electors of the city of Los Angeles at large" (Section 4) "for a term of two years" (Section 5) and "shall receive....ten dollars for each regular meeting....." The Charter further declares that the Board of Education shall have power

"To establish and maintain public schools including colleges..... To have and exercise entire control and management of the public schools in the city in accordance with the constitution....."[3]

California cities receive a large amount of revenue from the state. (Los Angeles received 14.9 per cent in 1920.)[4] They also receive revenue from a

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[1]For California cities included in this study see Appendix II, p. 99.

[2]Los Angeles City Charter, Section 69.

[3]Ibid, Section 76.

[4]Computed from data in Questionnaire Number Three of the Committee for Chamber of Commerce Co-operation with the Public Schools.

county wide tax. Concerning this tax the state law says:

"The board of supervisors of every county or city and county must annually, at the time and in the manner of levying other county or city and county taxes, levy and cause to be collected for the.....school fund a tax,.....the maximum rate of which must not exceed fifty cents on each one hundred dollars.....nor the minimum rate be less than sufficient to raise the minimum amount estimated to be raised by the county superintendent of any county, or of any city and county,....."[1]

All revenue in excess of the amount received from the state and provided for in the section just quoted, must be raised by a special tax which is levied by the County Board of Supervisors at the request of the city school board and the County Superintendent. The provision for this tax is made in the following law;

"The board of school trustees or board of education of any school district or of any city may.....submit to the county superintendent of schools an estimate of any amount of money in excess of the amounts derived from the state and county funds which will be required for the maintenance of any school or schools in their several districts for the ensuing year. The county superintendent of schools shall thereon examine said estimates and submit copies of the same with his approval or disapproval endorsed thereon to the board of supervisors and to the county auditor at the time he submits to them his estimate for the county school tax for the ensuing school year. If the county superintendent of schools approve such estimates the said board of supervisors may.....levy.....the excess amounts so estimated and approved."[2]

It appears that although California cities are entirely separate from the municipal authorities and have complete control of all school expenditures, yet because they are dependent upon the County Board of Supervisors for this special tax they cannot be classed as entirely independent.

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[1]California State School Laws, Section 1818.
[2]Ibid, Section 1840.

CLASS FOUR

ELECTED SCHOOL BOARDS—PARTIALLY INDEPENDENT.

This special class was made for Oklahoma cities because it was impossible to class them with any other group. In Oklahoma the school board members are elected, but the elections are either by wards or nominations are by wards. This plan is inferior to nomination and election at large.

The school board is allowed to levy a tax of five mills, and in Oklahoma where property is assessed at practically fifty per cent of real valuation, this means a tax of but two and one-half mills. It is necessary then for the school tax rate to be submitted to the taxpayers for a vote, and then according to law it is reviewed by the excise board. Roughly speaking, Oklahoma cities are fiscally independent but practically they are not quite that, hence they are grouped in this special class.

Necessary quotations from the Oklahoma laws are given below.

"There is hereby created in each and every county in this state an Excise Board to be composed of the following: County clerk, county attorney, county treasurer, county judge, county superintendent, county assessor and one member of the board of county commissioners to be designated by said board, which shall perform duties as herein provided without additional compensation."[1]

"School districts levy for the support of common schools not more than five mills;....."[2]

"The annual rate of levy of (5) five mills for school purposes may be increased by any school district by an amount not to exceed (10) ten mills on the dollar valuation on condition that a majority of the tax paying voters thereof voting thereon shall vote for such additional levy.... The excise board shall have no power or authority to reduce the levy, so voted, and made at a school district meeting, neither shall

[1]Oklahoma State School Laws, Section 450.
[2]Ibid, Section 449.

the said board have the authority to reduce the estimate, unless the rate of levy so voted, shall be insufficient to raise the amount thereof in which case the board shall reduce and adjust the items of the estimate to an amount within the limits of the levy."[1]

CLASS FIVE

ELECTED SCHOOL BOARDS—BUDGET PASSED ON BY VOTERS.

These cities are dependent upon the votes of the people for authority to adopt a budget and levy a school tax. This method of control is common among the small districts of many states but it is employed by very few cities having a population of eight thousand or more.

Rutherford, New Jersey has been selected as an example to represent this class.

The elective school board is provided for in the following manner:

"In each township, incorporated town and borough school district, there shall be a board of education consisting of nine members, except as hereinafter provided; three members of such board shall be chosen at each annual school meeting and shall hold office for a term of three years."[2]

Concerning the school tax the law says:

"The legal voters.....may, at an annual or special meeting of said legal voters, by a vote of a majority of those present, raise by a special district tax such sum or sums as a majority of said legal voters present at such meeting may agree upon....."[3]

"The assessor of any taxing district shall assess on the inhabitants of the school district and their estates, and the taxable property therein, in such manner as other taxes shall be assessed, and the collector of such taxing district shall levy and collect such sum of money as shall have been ordered to be raised by the legal voters in the manner aforesaid."[3]

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[1]Oklahoma State School Laws, Section 454.
[2]New Jersey State School Laws, Article VII, Section 106.
[3]Ibid, Article VII, Section 127.

For detailed information concerning each city in this group see Table Alpha.[1]

CLASS SIX

ELECTED SCHOOL BOARDS
BUDGET PASSED BY COUNTY BUDGET COMMISSION.

This condition is true only in Ohio. Here the school boards are elected from the city at large and the budget is adopted not only by the school board but by the county budget commission. The following laws define the method used.

"On or before the first Monday in June, each year,..... each board of education.....shall submit or cause to be submitted to the county auditor a budget, setting forth in itemized form an estimate stating the amount of money needed for their wants for the incoming year, and for each month thereof."[2]

"There is hereby created in each county a board for the annual adjustment of the rates of taxation and fixing the amount of taxes to be raised therein, to be known as the budget commissioners. The county auditor, the county treasurer, and prosecuting attorney shall constitute such board..... For the purpose of adjusting the rates of taxation and fixing the amount of taxes to be levied each year the county auditor and budget commissioners shall be governed by the amount of taxable property as shown by the auditors tax list for the current year;....."[3]

"The auditor shall lay before the budget commissioners the annual budgets submitted to him..... The budget commissioners shall examine such budgets and estimates prepared by the county auditor, and ascertain the total amount proposed to be raised in each taxing district for state, county, township, city, village, school district, or other taxing district purposes. If the budget commissioners find that the total amount of taxes to be raised therein does not exceed the amount authorized to be raised—the fact shall be certified to the county auditor. If the total is found to exceed such authorized amounts—the budget commissioners shall adjust

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[1]See Appendix II, p. 95.
[2]Ohio State School Laws, Section 5649-3a.
[3]Ibid, Section 5649-3b.

the various amounts to be raised so that the total amount thereof shall not exceed in any taxing district the sum to be authorized to be levied therein. In making such adjustment the budget commissioners may revise and change the annual estimates contained in such budgets, and may reduce any or all the items in any such budget, or any item therein."[1]

The quotations taken from the Ohio School Laws outline the special process through which the city school budgets must pass. The fact that a county budget commission may reduce, and many times has reduced school budgets, takes from the Ohio cities their complete fiscal independence. Class six is nearer dependent than independent although Ohio cities do not suffer all the annoyances of municipal control of funds after they have been collected.

CLASS SEVEN

ELECTED SCHOOL BOARDS—FISCALLY DEPENDENT.

Many different types of control are represented in this class of cities. However, two elements are in common, (1) all school boards are elected by the people and (2) all are fiscally dependent.

These cities are from eleven different states and it is impossible to give the laws in detail for each individual city. However, the chief points concerning each system can be found in Table Alpha.[2] The laws in full are given for Rochester, New York because it is typical of this class of cities.

"The officers elected by the electors of the city are:—five commissioners of schools."[3]

"The board of education in each city having a population of less than one million shall prepare annually an itemized estimate for the current or ensuing fiscal year of such sum of money as it may deem necessary for the purposes stated

[1]Ohio State School Laws, Section 5649-3c.
[2]See Appendix II, p. 99.
[3]Rochester City Charter, Section 14.

in this section.....such itemized estimate in such cities shall be filed at such times and in such manner as city departments....."[1]

"The estimate of the department of public instruction must be submitted on or before the thirty-first day of December in each year."[2]

The board of estimate and apportionment to which the board of education must submit its budget estimate:

".....consists of the mayor, who is president thereof, comptroller, corporation counsel, president of the common council and the city engineer."[3]

"Within forty-five days after the commencement of each fiscal year the board of estimate and apportionment must make an itemized statement in writing of the estimated revenues and expenditures of the city for the fiscal year .....The estimate of expenditures for the department of public instruction must not be less than a sum equal to twenty-five dollars per capita, based on the total number of persons enrolled as pupils in the public schools for the year ending the preceding thirty-first day of December."[4]

After the budget estimate has been adopted by the board of estimate and apportionment it must be submitted in its final form to the common council for its action and:

"The several sums estimated for expenditures contained in the annual estimate as adopted by the common council, become appropriated for the fiscal year——."[5]

However, the common council, which is limited in the action that it may take concerning this budget estimate for the charter says:

"The common council must not increase any item contained therein, but has power to diminish or reject.....

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[1]New York State Education Laws, Section 877, No. 1.
[2]Rochester City Charter, Section 28
[3]Ibid, Section 61.
[4]Rochester City Charter, Section 62.
[5]Ibid, Section 63.

except.....that the items for the department of public instruction must not be reduced to less than a sum equal to twenty-five dollars per capita....."[1]

After moneys have been raised by the city or received from the state for school purposes, they are held by the city treasurer and credited to the Board of Education. (State Education Laws, Section 880 No. 1).

The city officials have no more authority over these funds for the law provides that:

"Such sums shall be disbursed only upon the authority of the board of education and upon written orders drawn on the city treasurer.....such orders shall be signed by the superintendent of schools and the secretary of the board of education or such other officers as the board may authorize."[2]

Although it is not deemed advisable to give laws in detail for other cities, the following concerning Detroit, Michigan is given to show another good statement of this type of control.

"Its annual budget shall be prepared at the same time and in the same way, as the city's budget, and shall be submitted to and considered by the same board or officers."[3]

"School taxes for the purposes of the board of education of the city of Detroit shall be levied and collected the same as other city taxes."[4]

Perhaps the latest statement of fiscal dependence of this type, was written into the Minneapolis, Minnesota charter which was adopted in November, 1920.

"The City Council and every board or department of the city having power to levy taxes, shall.....submit to the Board of Estimates and Taxation a budget showing the estimates and needs for the year,..... .....the Board of Estimate and Taxation shall in that case fix the maximum

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[1]Rochester City Charter, Section 105.
[2]New York State Education Laws, Section 880 No. 2.
[3]Michigan State School Laws, Section 4, No. 370. (1919)
[4]Detroit City Charter, Chapter IV, Section 33.

of the moneys to be raised by taxation for the purposes of the Board of Education on or before the first day of May next following."[1]

The combination of elective school board and fiscal dependence that we have in this class is an example of divided responsibility. In case of failure to provide adequate schools for a city, no one can be sure where the fault lies. The cities having elective school boards are placed ahead of those with appointed school boards because the school system, in spite of divided authority, is better served by such a board. Although these boards may have small financial authority yet they are better champions of schools than those that are creations of the city government. This is evident through the bitter fights waged between elected school boards and the "city hall" in this type of control. A school board that is the product of the "city hall" will not have the same opportunity to fight for funds as the one responsible to the people only.

CLASS EIGHT

APPOINTED SCHOOL BOARDS
BUDGET PASSED BY BOARD OF SCHOOL ESTIMATE.

This class is made up of all New Jersey cities, which are included in this study, except Rutherford. This classification was made and placed in this position because of three facts, (1) the school board in each city is appointed by the mayor, (2) no school board can adopt a budget without the permission of the special board of school estimate and (3) all levies over three-fourths per cent must be made with the consent of the city government.

The laws that govern the New Jersey cities are given in some detail in the following paragraphs.

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[1]Minneapolis City Charter, Chapter XV, Section 2.

"In every city school district.....the board of education shall be appointed by the mayor....."[1]

This school board is given general control of the public schools.

"Every school board shall have supervision, control and management of the public schools and public school property in its district, and shall keep such property insured."[2]

The laws of New Jersey provide a peculiar form of board to have control of the school budget. This is a joint school-municipal board and is made up in the following manner:

"In every school district the Board of Education shall appoint two of its members, and the common council, board of finance or other body in such city having the power to make appropriations of money raised by taxes in said city, shall appoint two of its members, and the four persons so appointed, together with the mayor.....shall constitute a board to be known as the 'Board of School Estimate' of said school district."[3]

The budget estimate is compiled by the board of education and then presented to the board of school estimate.

".....the Board of Education of such city school district shall prepare and deliver to each member of said Board of School Estimates an itemized statement of the amount of money necessary for the current expenses—for the ensuing school year....."[4]

The Board of School Estimate is given power to adopt this budget and the council is required to levy the school tax under certain limitations.

"Between the first and fifteenth day of February in each year said Board of School Estimate shall fix and determine the amount of money necessary to be appropriated for the use of the public schools in such district for the ensuing school

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[1]New Jersey State School Laws, Section 49.
[2]Ibid, Section 61.
[3]Ibid, Section 86.
[4]Ibid, Section 87.

year.....said Board of School Estimate shall.....make two certificates of said amount, signed by at least three members of said board, one of which certificates shall be delivered to the board of education of said school district, and the other to the common council, board of finance or other body in city having the power to make appropriations of moneys raised by taxes in such city. Said common council.....shall .....appropriate.....the amount so certified.....and said amount shall be assessed, levied and collected in the same manner as moneys appropriated for other purposes in such city shall be assessed, levied and collected; provided, that any amount in excess of three-fourths of one percentum of the taxable valuation of the real and personal property shall be appropriated only with the concurrence and consent of said common council, board of finance or other body, expressed by its resolution duly passed."[1]

The Board of Education is given power to appropriate and pay out moneys that have been raised for school purposes.

"No claim or demand shall be audited or paid unless it shall be authorized by law and the rules of the board of education.....nor unless the amount required to pay the same shall have been theretofore appropriated by said board."[2]

All moneys paid out by the board of education must be paid out in the following manner:

"All disbursements of the board of education shall be by warrant.....signed by the president of said board and countersigned by the secretary. All warrants drawn in accordance with the provisions of this section,.....shall be forwarded by said secretary, to the controller.....authorized by law to audit claims and demands against the municipality in which such district shall be situated."[3]

However, the action that the controller or auditor is allowed to perform is merely to make sure that the warrants are legal.

"Such auditor shall examine and audit such warrants and statements, with a view of ascertaining whether the sum or sums are proper, and if he shall find them correct, he

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[1]New Jersey State School Laws, Section 88.
[2]Ibid, Section 74.
[3]Ibid, Section 75.

shall countersign said warrants and forward them to the city treasurer, who by virtue of his office as city treasurer, shall be the custodian of school moneys of said school district."[1]

CLASS NINE

APPOINTED SCHOOL BOARDS—ENTIRELY DEPENDENT.

These cities are the most dependent of any class studied. Not only are the school boards creations of the "city hall" but the finances are also in the hands of the municipal government. Table Alpha[2] gives the detailed information about these cities and but one example need be given here in full. New York City is the most talked of, most written about and most typical example of complete fiscal dependence. The following laws, which have been compiled from the New York City Charter and the State Education Laws, are the laws under which New York City Schools operate at the present time.

The charter of the city of New York declares that the city shall have a "board of education of forty-six members."[3] The State Education Laws of 1917, however, declare that:

"A city having a population of one million or more shall have a board of education to consist of seven members."[4]

This conflict between New York City's charter and state laws appears in most of the factors under consideration in this study.

The board of education is made up of members who have the following qualifications:

"No person shall be eligible to the office of member of a board of education who is not a citizen of the United States

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[1]New Jersey State School Laws, Section 75.
[2]See Appendix II, p. 99.
[3]New York City Charter, Section 1061.
[4]New York State Education Laws, Section 865, No. 1.

and who has not been a resident of the city for which he is chosen for a period of at least three years....."[1]

The members of the board are appointed by the Mayor and hold office for a term of seven years.[2] These appointments must be made from certain divisions of the city for the law says:

"Two members of such board shall be residents of the borough having the largest population, two shall be residents of the borough having the second largest population, and one shall be a resident of each of the other boroughs in such city."[3]

This board of education:

"Shall represent the schools and the school system of the city of New York before the board of estimate and apportionment, and before the board of aldermen in all matters of appropriations in the budget of the city for educational purposes."[4]

The board of education of New York City compiles a detailed budget of moneys necessary to run the schools for the next fiscal year. The charter says that:

"On or before the 15th of September in each year it shall submit an estimate in detail of the moneys needed for the entire school system of the city during the next succeeding calendar year, to the board of estimate and apportionment for its action."[5]

The charter further declares that the moneys for school purposes shall be segregated into two funds (1) the general school fund and (2) the special school fund. The general fund is made up of salaries, and all other expenses are included in the spe-

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[1]New York State Education Laws, Section 866.
[2]Ibid, Section 866, No. 2.
[3]Ibid, Section 866, No. 2.
[4]New York City Charter, Section 1064.
[5]Ibid, Section 1064.

cial fund. The general fund is raised "in bulk and for the city at large" while the special fund is itemized in the budget showing how much is to be spent in each borough.[1]

Concerning this estimate the State Education Law supersedes the charter.

"If the total amount requested in such estimate shall be equivalent to less than four and nine-tenths mills..... the board of estimate and apportionment shall appropriate such amount. If the total amount contained in such estimate shall exceed said sum of four and nine-tenths mills.....such estimate shall, as to such excess, be subject to such consideration and such action by the board of estimate and apportionment, the board of aldermen, and the mayor as that taken upon departmental estimates submitted to the board of estimate and apportionment."[2]

All moneys raised in the budget of the city of New York must be appropriated by the action of the board of estimate and apportionment. Hence, the "excess" referred to in the quotation above must go through this procedure. This board of estimate and apportionment is made up entirely of ex officio members and it has a system of weighted votes for different members. The officers who are members of this board, with the number of votes possessed by each, are (1) Mayor, three votes; (2) Comptroller, three votes; (3) President of the Board of Aldermen, three votes; (4) President of the Borough of Manhattan, two votes; (5) President of the Borough of Brooklyn, two votes and (6) Presidents of the other boroughs, one vote each.

The board of estimate and apportionment has the power to reduce the school budget, adopt it as it stands or it "is authorized to make additional appropriations for educational purposes authorized by this chapter."[3]

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[1]New York City Charter, Section 1060.
[2]New York State Education Laws, Section 887, No. 7.
[3]Ibid, Section 887, No. 7.

After the budget has been adopted by the Board of Estimate and Apportionment it goes to the Board of Aldermen for their action.

"The Board of Aldermen may reduce the said several amounts fixed by the board of estimate and apportionment except such amounts as are now or may hereafter be fixed by law. ..... The board of aldermen may not increase such amounts nor vary the terms and conditions thereof, nor insert any new items."[1]

The action of the Board of Aldermen is not final for the charter says;

"Such action of the board of aldermen on reducing any item or amounts fixed by the board of estimate and apportionment shall be subject to the veto power of the Mayor..... and unless such veto is overridden by a three-fourths vote of the board of aldermen the item or amount as fixed..... shall stand as part of the budget."[2]

After these moneys have been collected they are placed in care of the city treasurer to the credit of the board of education and can be disbursed only by order of the board of education.[3]

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[1]New York City Charter, Section 226.
[2]Ibid, Section 226.
[3]New York State Education Laws, Section 880, No. 1.

CHAPTER VII

AN INDEX NUMBER FOR CITY SCHOOL SYSTEMS

The different methods of controlling city school finances were pointed out in Chapter VI. It is interesting to know how moneys are raised and controlled and what limitations are placed on the different cities. However, to stop here would be to leave no real evidence to show whether a city school system should be fiscally independent or dependent. In the past, as was shown in Chapter IV, arguments for and against fiscal independence have been largely based on opinion and isolated instances of graft and incompetency. No one has ever attempted to show the general relationship between fiscal independence and school efficiency. One of the reasons why this has never been done is that there has been no adequate method of comparing one city school system with another and thus drawing conclusions based on fact. In order to overcome this difficulty an index number for city school systems has been devised. This index number gives credit to all important educational factors for which reliable data are available.

The Index Number as a Statistical Device

Index numbers have long been used as measures of the cost of living, general level of wages, market value of stocks and bonds, and numerous other values and conditions. One of the best known and most widely used indices is the one published by the United States Department of Labor as a measure of the cost of living. The method used in making this number will be sketched briefly in order to illustrate the principle.

The Bureau of Labor Statistics uses 327 items in computing its index number. These commodities are as follows:

32 farm products
91 food articles
77 cloth and clothing
21 fuel and lighting
25 metal and metal products
30 lumber and building material
18 chemicals and drugs
12 house furnishing goods
21 miscellaneous.

The average wholesale price for the month is computed for each commodity. In order that each article may have proper weight in determining the total index number, it is multiplied by the estimated quantity of that article marketed in 1909. The index number for 1913 is fixed as 100 and the computed index number for each month is expressed as a per cent of that obtained in 1913.

Bradstreet's index number is based on the wholesale price of 96 articles, taken at the first of the month only, and the cost in dollars and cents of one pound of each commodity is totaled for the index number. The Annalist index number is based on the unweighted, average, wholesale price for each week of 25 food articles expressed in its relation to 1890-1899 prices.

Educational Application

Ayres has made an application of the index number method in his "Index Number for State School Systems." He made use of the following ten items in computing his index number.[1]

1 Per cent of school population attending school daily.
2 Average days attended by each child of school age.

[1]Ayres, L. P., An Index Number for State School Systems, p. 14.

3 Average number of days schools were kept open.
4 Per cent that high school attendance was of total attendance.
5 Per cent that boys were of girls in high schools.
6 Average annual expenditure per child attending.
7 Average annual expenditure per child of school age.
8 Average annual expenditure per teacher employed.
9 Expenditure per pupil for purposes other than teachers' salaries.
10 Expenditure per teacher for salaries.

By a series of special methods explained in his monograph, Ayres expressed all of his measures on the basis of 100 as a standard. These ten items were then totaled and divided by 10 to give the final index number. This index number was computed for each state.

Of these ten items it is apparent that five are educational in character and five financial. It is not quite clear just why so much stress (50 per cent) is placed on what education costs. A high correlation is shown to exist between the two factors but this does not necessarily argue for the use of the financial data but rather shows how safe the index number would be without this factor. For this and other reasons the Ayres index is not used in the comparison of city school systems. An example of the unfair influence of the financial factor of the Ayres index is seen in a comparison between the States of Montana, rank 1, and Oregon, rank 20 (1918). By omitting the financial fifty per cent of the index numbers and computing on the basis of education alone, Oregon has an index number of 66.46 and Montana 63.44. It appears that Oregon ranks

higher in the educational factors, but because it costs Montana more for a less degree of educational excellence, Montana gets a much higher score.

The Composition of the Index Number

In the index number developed for this study no cost items are included. It is the function of this study to discover what method of fiscal control is best for a city school system, hence the fact that a city spends more money cannot be used as a measure of superiority. A real educational index number should take into account only the products of education. But, as these products are so varied and largely unmeasurable, at least at present, it is not possible to construct a satisfactory index number by this method. The best that can be done at the present time is to make use of those measurable factors that are associated with, and are the necessary corollary of efficient education. It is on this basis that the factors involved in the following index number were selected. The six factors are listed below and are discussed in detail in the succeeding paragraphs.[1]

1 The per cent of sixteen and seventeen year old children in school.
2 The per cent of elementary classes having fewer than forty children enrolled.
3 The per cent of children who have 60 sq. ft. or more playground space.
4 The per cent of teachers who have six or more years training above the eighth grade.
5 The per cent of children enrolled who attend school all day, and in adequate buildings owned by the city.
6 The per cent of the increased cost of living from 1913-14 to 1919-20 that was

[1]Detailed data for all cities, for the six factors, will be found in Appendix III, p. 107.

met by increased salaries for elementary women teachers.

Factor Number One

This is a measure of the holding power of the school. A school system to be efficient should hold a large per cent of the boys and girls in school at these ages. If it fails to hold them the cause may be traced to any one of a number of different sources but no matter what the source, it is a mark of inefficiency for a city school system to fail to attract or hold a large number of the children of these ages.

It was the original plan to compute this measure by comparing the enrollment of sixteen and seventeen year old children with the census records. This was abandoned as impossible when it was found that a large number of schools do not have age-census data available! The method used was to find the number of eight and nine year old children enrolled and compute the per cent of sixteen and seventeen year old children on this as a basis. The average for all cities used was 39.1 per cent.

Factor Number Two

A money saving, inefficient means of conducting a school is to group the children into very large classes. This not only saves teachers' salaries but class rooms. This factor serves as a check on the building situation, for in cities where the building program lags behind, the children are usually grouped into classes that are too large for efficient education. Forty is used as the maximum number that should be grouped in a class. This may be too large but more than thirty-one per cent of the elementary classes in the cities studied are even larger. The per cent of elementary classes having fewer than forty children enrolled is the computed measure for this factor in the index number.

Factor Number Three

It is now an accepted educational principle that an important part of a child's education takes place on the playground. An efficient school system must take account of this and provide adequate playground space for children. The best authorities on the question advise one hundred square feet of playground space as the minimum allotment for each child. The data concerning playgrounds were computed on the basis of the number of square feet per child, based on the average number belonging. The playgrounds of the American city schools are hopelessly inadequate. It was necessary to use sixty square feet as a basis for computing this factor and then only 55.3 per cent of the children exceeded this minimum. The per cent of children who have sixty or more square feet of playground space is the computed measure. The average for the total number of cities is 55.3 per cent.

Factor Number Four

This factor needs no comment as to value nor explanation as to method. The per cent of the whole teaching force of the city having six or more years of training above the eighth grade is the measure used. The average for the total number of cities is 72.7 per cent.

Factor Number Five

When schools are over-crowded and the authorities fail to provide sufficient new buildings a great many makeshifts are resorted to by the schools. The grouping of children into large classes has already been taken into account. The other methods most used are to make use of portables, annexes, corridors or halls, attic rooms, basement rooms or to rent buildings. If these methods do not provide sufficient room for the children they are put on a half-

day plan and dismissed for the other half day. The total number of children in all of these makeshift places was computed for each city. This number was subtracted from the total enrollment, and the number thus found was expressed as a per cent of the total enrollment. Thus the measure is the per cent of children attending school all day and in adequate buildings owned by the city. The average for all cities is 91.4 per cent.

Factor Number Six

The last measure differs from the other five in that it is a measure of the ability of the school organization to adjust itself to new financial needs. The six years following 1913 were years of advancing prices. A great many school systems lost their best teachers through their inability to adjust themselves to the new conditions. It seems that this ability to adjust is a real measure of the efficiency of a school organization. It also reflects largely upon the present teaching efficiency of the schools. No cognizance is taken of the adequacy of salary schedules in 1913-14 or 1919-20 but only the per cent increase between these dates is dealt with. It appears that the amount of money spent per teacher for salaries does not give a comparable measure of different cities, where the cost of living is very different. The efficient school organization during the period studied was the organization that increased salaries at least as fast as the cost of living increased.

It is unfortunate, for the purpose of computing this index number, that the many indices of living costs are wholesale and for the country at large. However, the United States Bureau of Labor Statistics publishes for fifty-one selected cities the per cent of increase of the retail price of food since 1913. These figures are based on the retail prices

of twenty-two standard food articles. This is in reality an index number for the cost of food instead of the cost of living in general. Inasmuch as an index number is desired that is based on retail prices, and is given for different parts of the country, this is the best one to use. Moreover, Burgess in his "Trends of School Costs" concluded after a detailed study of the question, that "On the basis of these and similar facts it was decided that the best single index of the changes in the cost of living would be an index number of the changes in the retail price of food."[1] The country was divided into four geographical divisions; North Atlantic, Southern, Great Lakes and Western.[2] The median increase in living cost was computed for each division.[3] This was done by grouping the cities of each division, for which data were available, according to the per cent of increase of cost of living and finding the median of these increases. The percentage of increase is given in table II.

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[1]Burgess, W. R., Trends of School Costs, p. 52.

[2]North Atlantic, including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

Southern, including Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, Virginia and West Virginia.

Great Lakes, including Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio and Wisconsin.

Western, including Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, North Dakota, New Mexico, Oregon, Oklahoma, South Dakota, Utah, Washington and Wyoming.

[3]Monthly Labor Review (United States Bureau of Labor Statistics) December 1919, p. 188.

TABLE II

Per cent of increase of the cost of living from 1913 to October, 1919.

States	Per cent increase
North Atlantic	88.0%
Southern	91.5%
Great Lakes	91.0%
Western	77.0%

The next step was to compute the per cent of increase of elementary women teachers' salaries over the same span of years.

The two measures for each city thus arrived at were combined by dividing the per cent of increase of teachers' salaries by the per cent of increase in the cost of living. This is fair for all cities, for if the cost of living increased 77 per cent and salaries increased 77 per cent the city should receive the same 100 per cent credit in efficiency as the city where both salaries and the cost of living increased 91.5 per cent. The average for all the cities is 71.4 per cent.

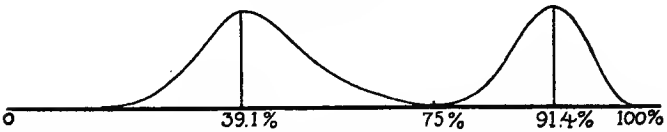
Combining the Six Factors Into an Index Number

Now that the elements which are to make up the index number have been selected, it is necessary to determine just how these are to be combined. Ayres combined his elements by adding the ten together and dividing by ten. This is the simplest and most easily understood method of making an index number. This method was tried and discarded because it did not show true relationships. It should be noted that although all factors are on a percentage basis the average for the factors, for all cities, differs widely. These averages are 39.1 per cent for the first factor, 68.8 per cent for the second and 55.3 per cent, 72.7 per cent, 91.4 per cent and 71.4 per cent for the others. If each factor is to have equal weight in the index number it will be impossible to use the percentages directly. For example let us sup-

pose that a city has a score of 65 per cent in factors number one and number five. If percentages are added for the index number the two will have equal value in spite of the fact that 65 per cent in number one is a record reached by few cities and 65 per cent in number five is a record that is extremely low. Ayres claims that he did not weight the factors making up his index number. Any method of making an index number based on a summation of percentages which come from distributions with different medians, is a weighted method.

With data such as ours, expressed in percentages, the most valid method of summing is to express each per cent measure in terms of its relative location on a frequency distribution. In Diagram A, two frequency surfaces are represented, one about the mean of factor one and the other about the mean of factor five. If a score of 75 per cent is located on the base

DIAGRAM A



line, it is evident that if percentages are summed for the index number this score of 75 per cent will have equal value in the index number, no matter in which factor it may occur. It can be seen that this score is an exceptionally good record in factor one and a very low one in factor five. Hence, the method used was to compute the Standard Deviation,[1] from the true

[1]For explanation of Standard Deviation see Rugg, H. O., Statistical Method Applied to Education. p. 167.

For S. D. values for each factor, for each city, see Appendix IV, p. 115.

mean, for each distribution and then express each per cent in terms of S. D. All S. D. values greater than 3 (plus 3 or minus 3) were used as 3. Only 4 of the 1,014 S. D. values used in the index numbers were effected by this rule. Thus, this 75 per cent given above becomes a plus 2.08 S. D. in factor one and a minus 1.38 S. D. in factor five. The index number is computed by a summation of the S. D. values for each city.

Correlations Between Factors

Each factor, as expressed in S. D. values, has been correlated with the index numbers. These correlations were computed by the Pearson product-moment method and are given below.

	r.
The per cent of sixteen and seventeen year old children in school	.60 ± .03
The per cent of teachers who have six or more years training above the eighth grade	.46 ± .04
The per cent of elementary classes having fewer than forty children enrolled	.45 ± .04
The per cent of children having sixty square feet or more playground space	.38 ± .04
The per cent of the increased cost of living from 1913 to 1919-20 that was met by increased salaries for elementary women teachers	.37 ± .04
The per cent of children enrolled who attend school all day and in adequate buildings owned by the city	.32 ± .05

If each factor were intended to measure total school efficiency then one would demand a much higher correlation. It appears that the above correlations are large enough to show a high degree of validity and at the same time small enough to guarantee that a great many INDEPENDENT factors

are under consideration. If these correlations were near 1.00 it might be suspected that some one spurious element was effecting them and thus reducing the validity of the index. If a school board wishes to make a radical cut in expenses, it may do so by hiring a whole corps of young, untrained teachers and pay them very low salaries. It is agreed by school men that this will reduce the total efficiency of a school system, but referring to the other factors in the index number, this fact will not make smaller playgrounds, poorer buildings or larger classes. However, it may influence the number of sixteen and seventeen year old children in school. Hence, the correlation of .46 between the index number and the per cent of trained teachers is more significant for this purpose than a correlation of .99 or one as low as 0.

Another significant factor that can be noted in these correlations, and can also be seen by going over the original data in either table Alpha or Beta, is that school systems are "poor in spots" and it is seldom that one finds a system that is inadequate in all particulars.

CHAPTER VIII

THE APPLICATION OF THE INDEX NUMBER TO THE PROBLEM OF FINANCIAL CONTROL

Each city has been previously classified into a certain class based on the degree of fiscal independence possessed by the school board. The index number, explained in Chapter VII, has also been computed for each city. In this chapter these two classifications are combined to show the relationship between school efficiency, as expressed by the index number, and the method of controlling school finances. Two methods have been used to study this relationship, (1) the median method and (2) the correlation method.

Comparison by Medians

In Table III the nine different classes of cities, based on types of financial control, are given and the cities are distributed according to the value of the index numbers. The line MI is parallel to the base line and is drawn through the median point of group one, which is made up of cities that have elected school boards that are fiscally independent. Only one city of group nine, which is made up of cities that have appointed school boards that are fiscally dependent, exceeds the median for group one. Groups two, three, four and five are so small that no significant conclusions can be drawn from them. However, it is interesting to note that no fiscally independent school system having an appointed school board equals or surpasses the median of group number one, and that even though fiscally dependent, the cities of group eight, with elected school boards, show a definite degree of superiority over the dependent cities with appointed school boards. The whole table argues convincingly against appointed school boards.

TABLE III

169 Cities Distributed According to Type of Financial Control and Value of Index Number.

Index Numbers	CLASSES OF CONTROL[1] 1	2	3	4	5	6	7	8	9	Total
7.50 to 8.09			1							1
6.90 to 7.49										
6.30 to 6.89										
5.70 to 6.29	1									1
5.10 to 5.69	3									3
4.50 to 5.09	2									2
3.90 to 4.49	4		1			2	1			8
3.30 to 3.89	5						2			7
2.70 to 3.29	7		1	1			2	1		12
2.10 to 2.69	5									5
1.50 to 2.09	7		1		3	1	3	1	1	17
.90 to 1.49	6			1	1		3	2		13
.30 to .89	4		1			1		3	MI	9
− .30 to .29	9	2	2				2		1	16
− .31 to − .90	3	2	1		1	1	1	1	1	11
− .91 to −1.50	6			1		5	3		1	16
−1.51 to −2.10	4						2			6
−2.11 to −2.70	5	1		1		1	2	2	1	13
−2.71 to −3.30	3	1	1			1	1	1	1 M	9
−3.31 to −3.90	2				1		1	2		6
−3.91 to −4.50	1						1	1	1	4
−4.51 to −5.10	1									1
−5.11 to −5.70	2						1	1	1	5
−5.71 to −6.30	1								1	2
−6.31 to −6.90	1									1
−6.91 to −7.50										
−7.51 to −8.10										
−8.11 to −8.70									1	1
Totals	82	6	9	4	6	12	25	15	10	169
Medians[2]	.75		.6			−1.02	−.15	−.60	−2.70	

The line M connects the medians of all distributions containing nine or more cities. A significant fact is that no city having a fiscally dependent school system surpasses the third quartile of group number one. The median was computed for each distribution containing nine or more cases. These medians

[1]For explanation of classes see Chapter VI, p. 43.

[2]Medians not given for groups having fewer than nine cities.

also point to the superiority of fiscal independence, as they vary from a plus .75 for group one to a minus 2.70 for group nine.

Comparisons by Correlations

The data given in Table III could not be correlated by the usual product-moment method because the horizontal steps are not equal. The large number of cases and the bunching of practically half of the measures in group one diminished the usefulness of the Spearman "R" for interpreting these relationships. The only method that was found to be of value and specially adapted to the interpretation of these data was the "biserial r." This method was devised by Karl Pearson, and published in Biometrika.[1]

The "biserial r" was developed for cases where one factor could be measured and distributed in the usual manner into a series of equal steps, and the other factor divided into two groups based on the presence or absence of a particular condition. Pearson uses this formula to find the correlation between age and the presence of anaemia in children. The ages are distributed in the usual manner and the children of each age group are divided into two classes based on the presence or absence of anaemia. The correlation is then computed from this table.

In order to use this method, groups one, two, three, four and five of Table III were combined. Groups six, seven, eight and nine were also combined. This gives us two groups of school systems. One made up of those schools that are, in a large measure, fiscally independent and the other made up of the schools that are primarily dependent. This new arrangement of the data is given in Table IV. The data are distributed into regular, equal steps on the

[1]Biometrika Volume VII, p. 98.

TABLE IV

Data for Computation of Biserial r.[1]

Index Numbers	Independent School Systems	Dependent School Systems		Total
7.50 to 8.09	1			1
6.90 to 7.49				
6.30 to 6.89				
5.70 to 6.29	1			1
5.10 to 5.69	3			3
4.50 to 5.09	2			2
3.90 to 4.49	5	3		8
3.30 to 3.89	5	2		7
2.70 to 3.29	9	3		12
2.10 to 2.69	5			5
1.50 to 2.09	11	6		17
.90 to 1.49	8	5		13
.30 to .89	5	4	Q3	9
− .30 to .29	13	3		16
− .31 to − .90	7	4		11
− .91 to −1.50	7	9		16
−1.51 to −2.10	4	2	M	6
−2.11 to −2.70	7	6		13
−2.71 to −3.30	5	4	Q1	9
−3.31 to −3.90	3	3		6
−3.91 to −4.50	1	3		4
−4.51 to −5.10	1			1
−5.11 to −5.70	2	3		5
−5.71 to −6.30	1	1		2
−6.31 to −6.90	1			1
−6.91 to −7.50				
−7.51 to −8.10				
−8.11 to −8.70		1		1
Totals	107	62		169

basis of index number values and then each group of cities is divided into those having independent school systems and those having dependent school systems.

The formula for the computation of the biserial r is given in Appendix V. The problem under consideration is also worked out in detail and the method explained.[2] For the purpose of the reader

[1]For Computation of Biserial r see Appendix V, p. 123.
[2]See Appendix V, p. 123.

who is not interested in this satistical procedure it is sufficient to say that this r is interpreted exactly as the ordinary Pearson r.

The correlation by the above method, between fiscal dependence and school efficiency as measured by the index number, is —.27. This shows that there is a relationship, at least among the cities studied, between fiscal control and school efficiency. The fact that the correlation is definitely negative shows that a fiscally independent school system has a better chance to achieve success than one in which the finances are in the hands of the city government.

Table IV has also been marked to show the positions of the median, and first and third quartile of both distributions. Besides noting the definite superiority of the independent school systems on all three measures it is interesting to note that the lines are practically parallel showing the consistency of the advantage.

The Influence of Size of Cities.

The correlation just completed and discussed was computed on the basis of all the cities included in this study. In order to show that this condition holds as truly for the larger cities, the ninety-nine smallest cities were excluded from consideration and the "biserial r" computed for the seventy largest cities.[1] The correlation between fiscal dependence and the index numbers was found to be—.28. The same conditions exist for the seventy largest cities as for the total group.

The Influence of Geographical Location.

The correlations computed for the purpose of comparisons between fiscally dependent and independent school systems have been computed for the country at large without regard to geographical

[1]For Computation see Appendix V, p. 123.

location. It would be valuable to know if conditions are the same in different parts of the country. A separate correlation for each geographical division[1] is impossible because (1) there are no cities with dependent school systems in the western division, (2) the southern group is too small for any degree of reliability and (3) the North Atlantic group gives a division into classes and is large enough for a correlation but the independent cities are practically all grouped in one state. The only geographical division where the number of cities is large, and where the independent and dependent school systems are scattered over several states, is the Great Lakes Division. The correlation, by the biserial r method, between fiscal dependence and efficiency for this group of cities is —.27.[2] This is exactly the same correlation as found for the country at large. The relationship appears to be a general one.

New York State furnishes the best example of a single state in which we have a group of independent and dependent school systems. Six city school systems from this state, included in this study, are dependent and seven are independent. This group is far too small for a correlation and the only comparison of any value is that based on medians. The index number for the median independent school systems is plus .68 and the median for the dependent school systems is minus 1.99. This is in full agreement with all previous findings.

There is a distinct tendency for fiscally independent school systems to have higher index numbers than fiscally dependent systems. This holds true for cities of different size and geographical location.

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[1]For Geographical Divisions see Chapter VII, p. 72.
[2]For Computation see Appendix V, p. 123.

CHAPTER IX

THE CASE FOR FISCAL INDEPENDENCE.

1 Fiscal independence is right in principle.

Education is a function of the state. This has been set forth in so many state constitutions and upheld in so many court decisions that it is a fixed principle of American government. The control over education that is exercised by local school authorities is theirs only through the laws of the state. The authority for every act of the board of education is to be found in the state statutes. The legislature acting within its rights and fulfilling the duty imposed upon it must make provisions for education.

The authority for all municipal acts must also come from the state. Even in the states that have "home rule" for cities, the right to adopt a charter is conferred upon the city by the state government. The legislature in giving to one body the control of functions that are purely local in character, and to another the functions that are constitutionally declared to belong as a duty to the state, is acting within its legal rights. Belief in this principle has caused the states to create separate, corporate, local bodies to have charge of the city schools.

2 Fiscal independence is not a violation of the principles of taxation.

Many advocates of fiscal dependence claim that in granting taxing powers to two separate and distinct local agencies in the same territory, the legislature is violating a fundamental principle of taxation. Several of the court decisions given in Chapter III, page 21, deal with this question. The facts of the case are (1) a city has no inherent right to levy and collect a tax, (2) the state grants to the city the authority to collect certain revenues, (3) in

collecting these revenues the city is not exercising the right of taxation but merely collecting a tax for the state (41 Pa. 147)[1], (4) the state in granting a school board fiscal independence is simply giving to another "agency" the right to collect certain revenues for a specific state function. Instead of two boards within the same city "competing for revenues" it is a case of two creations of the state, within that state, collecting moneys to pay for certain functions delegated to them by the state. There is but one taxing authority outside of the Federal Government and that is the State.

3 Fiscal independence works better in practice.

It is the general opinion of school men that fiscal independence works better in practice. Where changes in financial control are made, the tendency is to change from the dependent type to the independent type. This is clearly shown in Chapter V, page 34. If one can judge from the articles published in the newspapers, there is much more dissatisfaction in those cities in which the schools are fiscally dependent than in cities where the school system is fiscally independent. There is not only dissatisfaction among the school people but among the citizens of the city. One instance of this is the vigorous criticism of the officials of the city of New York by many civic organizations, for failure to provide for the schools.

The index number developed in Chapter VII, page 65, shows the superiority of independent financial control for the schools. The fact that only one city, with a purely dependent school organization, equaled or passed the MEDIAN of those with independent financial control is highly significant. The correlation of —.27 between dependence and the

[1]See Chapter III, p. 23.

index number for school efficiency is not large but the fact that it is clearly negative shows that a fiscally independent school system has a better chance to achieve success, as measured by the index number.

4 Fiscal independence makes for a continuity of educational policy.

The successful superintendent of schools must be able to plan for the future. In adopting any new policy he must make definite plans for many years in advance. Changing a school organization from the 8-4 to the 6-3-3 plan, by the introduction of junior high schools, is a good example. If a superintendent and board of education wishes to make this change through the whole school system, definite plans should be made for a period of years. These plans would call for the building of so many buildings and the reorganization of certain elementary schools each year.

If the school authorities are certain that they will have the necessary funds, these plans can be made and executed year by year. In the same manner it is possible to map out a continuous policy for any part of the organization. If the school board is fiscally dependent it may carry out its program for one or more years, and then find its funds shut off by the city government. It is evident in some of the news clippings given in Chapter V, page 34, that this condition exists today. A school system which controls its own finances is able to make certain definite plans for the future and be sure of funds with which to carry them out. This continuity of policy is a valuable educational asset.

5 Fiscal independence provides adequate financial safeguards for the community.

An argument of those favoring fiscal dependence for city schools is that, if independent, the school

board would be extravagant and spend much more money than the city could afford. There are two good answers to this accusation, (1) the state sets a maximum tax rate which the school board must not exceed and (2) in the many hundreds of city school systems that are fiscally independent no school board has yet put the city into bankruptcy. In fact the school board is (in the most independent cases) elected by and held responsible to the voters. Hence, if a school board becomes too extravagant it will be as easy to replace it as to replace the city government. On the other hand, if the school board does not spend enough money on the schools, or if it has violated its trust, it is a much easier matter to deal directly with the school board than to secure reforms through a city government.

Those opposed to fiscal independence for city school systems claim that it is a waste of money to have two sets of taxation officers and two treasuries in the same city. Fiscal independence of the school board does not necessitate two such sets of officials. Many fiscally independent school systems have their taxes collected by the city or county and held subject to their order, in separate funds by the city or county treasurer.

6 Fiscal independence tends to keep politics out of the schools.

The quotations given in Chapter I and elsewhere in this book show that even those who are opposed to fiscal independence for city schools do grant that the schools are influenced less by politics than are any other political bodies. In a school board that is appointed by the mayor, and changes with the party in power, it is impossible to keep the political element out. With an independent board of education, elected at a special, nonpartisan election from the city at large and given authority to manage its own affairs, without reference to the party in power at

the "city hall," it is possible to exclude most of the political party elements. This is a very valid reason why the schools should be under the control of an elected, non-political body that is fiscally independent.

APPENDIX I

Selection of Cities

The selection of the 169 cities dealt with in this study was not a matter of deliberate choice. In order to study a city it was necessary to obtain accurate data from which to construct the index number explained in Chapter VII. The 169 cities used are the only cities over 8,000 population, for which these data could be secured.

Sources of Data

1 *Data concerning financial control.*

The data concerning financial control were gathered from three main sources, (1) city charters, (2) state laws and (3) a questionnaire.

City charters. A careful study was made of the charters of all cities having a population of 250,000 or more. In order to make certain that the latest charter was under consideration, the city clerk of each city furnished the date when the present charter was adopted. All charter provisions concerning education were compiled. These were sent to the office of the school system of the city in question, for verification. Thus it was assured that the correct provisions were made use of.

State laws. In the same manner as above, the latest edition of the school laws was secured and compilations made and checked for all large cities. In the case of small cities the compilation of laws was checked by the questionnaire given below.

Questionnaire. The author of this study was very fortunate in being able to secure the co-operation of the National Committee for Chamber of Commerce Co-Operation with the Public Schools of which Dr. George D. Strayer is chairman. This committee gathered a great volume of valuable material during 1920 and 1921. The following list of questions was made a part of inquiry number three, which was sent out by this committee in February, 1921. It was possible to compare the answers to these questions

with the provisions of law and city charters previously compiled.

LOCAL SCHOOL BOARD.

1. Are your school board members elected?.....
    1. In what month does regular school board election take place? .....
    2. How often are regular school board elections held? .....
    3. Are your school board members elected from wards or other political divisions?.....
    4. If so, by how many members is each ward or division represented? .....
    5. How many such wards or divisions in your city? .....
    6. How many members are elected from the city at large? .....
    7. Is it possible to tell from the ballot the political party of the candidate?.....
2. Are the members of your school board appointed?.....
    1. By whom appointed?.....
    2. By whom must the appointment be approved? .....
    3. Must appointments be made from certain wards or divisions? .....
    4. If so, by how many members is each ward or division represented? .....
3. Length of term of school board members?.....
4. Number of school board members?.....
5. How are school board vacancies filled?.....
6. By whom may school board members be removed from office? .....
7. How many members are regularly elected or appointed at one time? .....
8. Are all of your school board members paid?.....
   How much per year?.....
9. If all members are not paid give a list of all members that are paid with amount paid each
   Regular member ..... Annual salary .....
   Other considerations .....
10. Check any of the following that are special qualifications for school board membership in your city. If you have other special qualifications, add them.
    1. Property ownership .....
    2. Children of school age .....
    3. Ability to read and write English.....
    4. .....
11. What is the title of your officer having charge of the purchasing of supplies and equipment?.....
    Annual salary? .....

SCHOOL BUDGET.

1. By what official, officials or board is your school budget estimate compiled? .....
2. When does your fiscal school year begin?.....
3. Aside from state and city charter regulations concerning amounts, does your school board have FINAL authority as to the amount of this budget?.....
4. If not, when must your budget be ready for presentation to any authority other than the Board of Education? .....
5. Give the following data concerning the board or authority mentioned in question 4:
   1. Name .....
   2. Number of members .....
   3. Appointed or elected.....
   4. By whom? .....
   5. If it is an ex-officio board or has ex-officio members on it, give a list of the officers that serve on it .....
6. What action may this board or authority take concerning your school budget estimate? (Underline and add others) .....
   1. Reduce ..... 2. Increase.....
   3. Adopt ..... 4. Reject.....
7. What action did this board or authority take on your last budget? .....
   (If your budget was itemized give the following)
   1. What items were reduced? .....
   2. What items were increased?.....
   3. What items were adopted as presented?.....
   4. What items were cut from budget?.....
8. What percentage of the budget estimate adopted by this board was adopted because of mandatory legislation?... .....
9. Is the action of this board or authority subject to approval by any other board, governing authority or committee? .....
10. Give the following data concerning the board or authority mentioned in question 9:

1. Name .....
2. Number of members.....
3. Appointed or elected .....
4. By whom? .....
5. If it is an ex-officio or has ex-officio members on it, give a list of the officers that serve on it.....
.....

11. What action may this board or authority take concerning your school budget estimate? (Underline and add others.)
    1. Reduce ..... 2. Increase.....
    3. Adopt ..... 4. Reject.....
12. What action did this board or authority take on your last budget?.....
(If your budget was itemized give the following.)
    1. What items were reduced? .....
    2. What items were increased? .....
    3. What items were adopted as presented?.....
    4. What items were cut from budget?.....
13. What percentage of the budget estimate adopted by this board was adopted because of mandatory legislation?
.....
14. Has the mayor power to veto the budget?.....
15. If so, how and by whom can this veto be overcome?....
16. Are other budget estimates considered at the same time and by the same authorities that the school budget estimates are? .....
17. If so, underline them and add others if necessary.
    Sewers..... Streets..... Police.....
    Fire..... City Admintsration.....
18. How long has the above procedure of budget adoption been in operation in your city?.....
19. Is the present plan satisfactory to your schools?.....
20. If not, what plan would you prefer?.....
21. If your answers to the above questions fail to make your situation clear, please write on blank paper and attach to this sheet, an account of how, when and by whom your budget estimate is compiled, and the possible legal actions that any official, board or authority may take in the matter of changing, adopting, rejecting or in any way influencing your budget.

LOCAL SCHOOL TAXES

The school tax referred to in this group of questions is that school tax levied on property and collected for your school system by local authorities. By local we mean the smallest unit of taxation for your school system, whether it is school district, city, county or some other unit.

1. What was your local school tax rate for the last year?
2. Assessed valuation is what per cent of real valuation?
3. Is this percentage fixed by law?.....
4. What board or official determines the local school tax rate? .....
5. If this is fixed by state law, in what year was the law passed? .....
   What provision does this law make for more revenue for 1921-1922? .....
6. If this rate is not fixed by state law but just "limited" give the limits. Highest possible rate.....
   Lowest possible rate.....
7. If these limits may be changed by popular vote, how low can the tax rate be reduced?.....
   How high can tax rate be raised?.....
8. If the state requires a certain tax rate for certain school purposes, give them below.....

Purpose	Rate
(For example) Health Education	.2 mills
.....	
.....	
.....	
.....	
.....	

9. If this tax rate is fixed by charter provision, when was this provision adopted?.....
10. If this rate is not fixed by charter provision but just "limited" give the limits. Highest possible rate.....
    Lowest possible rate.....
11. Give any other city charter requirements as to local tax rate for school purposes.....
12. What official collects the local school tax?.....
13. What official has final custody of all school moneys?....
14. After money has been collected for school purposes
    1. What board or official orders this money paid out?
    .....
    2. What officials must sign school warrants?.....
15. Give in full any regulations not asked for above that might in any way affect local tax rate for your school.
    .....

2 Data from which the index numbers were computed.

All data used in the construction of the index numbers, with the exception of the index of the cost of living used in factor six, were obtained from inquiries one and two of the National Committee for Chamber of Commerce Co-operation with the Public Schools. As the index numbers are computed from six separate factors, the sources of data will be given for each factor separately.

Factor One

Ages	4	5	17
TOTAL PUBLIC SCHOOL ENROLLMENT*			

*TOTAL SCHOOL ENROLLMENT includes all children who have registered in school and have attended for one-half day or more, minus those children who have been transferred during the previous months within the school system.

Factor Two

Size of Classes*	Elementary
19 pupils or less	
20-24 pupils	
25-29 pupils	
30-34 pupils	
35-39 pupils	
40-44 pupils	
45-49 pupils	
50-54 pupils	
55-59 pupils	
60 or more pupils	

*Based on average daily attendance.

Factor Three

NUMBER OF SQUARE FEET OF PLAYGROUND SPACE, PER CAPITA OF AVERAGE NUMBER BELONGING, DISTRIBUTED BY SCHOOLS AND NUMBER OF CHILDREN ACCOMMODATED.

Number of square feet per pupil.	Number of school playgrounds falling in size groups listed.	Number of children accommodated in each group listed.
Less than 10 sq. ft.		
10-19 " "		
20-29 " "		
30-39 " "		
40-49 " "		
50-59 " "		
60-69 " "		
70-79 " "		
80-89 " "		
90-99 " "		
100-149 " "		
150-199 " "		
200-249 " "		
250-299 " "		
300-349 " "		
350-399 " "		
400-449 " "		
450-499 " "		
500 and over		

DO NOT INCLUDE GROUND ON WHICH BUILDING STANDS OR AREA USED FOR LAWN.

Factor Four

AMOUNT OF TRAINING ABOVE THE EIGHTH GRADE RECEIVED BY ELEMENTARY, JUNIOR HIGH, SENIOR HIGH, NORMAL SCHOOL AND JUNIOR COLLEGE TEACHERS.*

Years of schooling above eighth grade.	Number Elementary school teachers falling in the training groups listed at left.		Number Junior High or Intermediate school teachers falling in the training groups listed at left.		Number Senior High school teachers falling in the training groups listed at left.		Number Normal school teachers falling in the training groups listed at left.		Number Junior College teachers falling in the training groups listed at left.	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Less than 1 year										
1 year										
2 years										
3 years										
4 years										
5 years										
6 years										
7 years										
8 years										
9 years										
10 years										
11 years										
12 years										

*Include only teachers who spend more than half time in teaching. A teacher who spends half time or more in supervisory work, for instance, would not be included. She would be listed under supervisors in form Number 4.

Factor Five

11. Number of portable buildings in use.....housing.....children.
(give number)

12. Number of rented buildings in use.....housing.....children.
(give number)

13. Number of annexes, other than portable and rented buildings, in use.....housing .....children.
(give number)

14. Number of corridors or halls in use.....housing.....children.
(give number)

15. Number of attic rooms in use.....housing.....children.
(give number)

16. Number of basement rooms inadequately lighted and more than three feet below the ground level in use.....housing.....children.
(give number)

17. Number of pupils on half time for lack of building space. (Do not include kindergarten children or pupils under a "platoon" system of instruction.)

    a. In elementary school.....

    b. In junior high or intermediate school.....

    c. In senior high school.....

Factor Six

The source of data concerning the cost of living that was used in this factor was explained in full in Chapter VII. The data concerning teachers' salaries were taken from the table given below:

SALARY GROUPS	ELEMENTARY SCHOOLS (a)			
	Number teachers whose salaries in 1919-20 fell within salary groups listed.		Number teachers whose salaries in 1913-14 fell within salary groups listed.	
	Men	Women	Men	Women
$300-399				
400-499				
500-599				
600-699				
700-799				
800-899				
900-999				
1000-1099				
1100-1199				
1200-1299				
1300-1399				
1400-1499				
1500-1599				
1600-1699				
1700-1799				
1800-1899				
1900-1999				
2000-2499				
2500-2999				
3000 and over				

The data obtained by the inquiries were of much higher order than those obtained by the ordinary

type of questionnaire. The committee had a national scope. The inquiries were backed by Chambers of Commerce as well as the schools, and wide publicity was given to the findings. The inquiries gave evidence of being filled out with great care and accuracy.

All cases in which the data furnished were not clear or if the accuracy was doubted, the city was eliminated from the list or the data verified by a personal letter to the school authorities of the city in question.

APPENDIX II.

Table Alpha, which follows, gives for 169 cities, the facts concerning the board of education and the budget that are necessary in order to understand the type of financial control that exists in each city.

TABLE ALPHA.

Facts Concerning the Board of Education and Budget Adoption.

Facts Concerning the Board of Education.

Cities arranged in order of size, and grouped by geographical location.	Elected or Appointed	Appointed by Whom	Partisan or Non-Partisan	At Large or by Wards	Term of Years	Number of Members	Type of Control[1]	Final authority in the adoption of the school budget.
NORTH ATLANTIC								
Tyrone, Pennsylvania	E		P	L	6	7	1	Board of Education
Rutherford, N. J.	E		Np	L	3	9	6	Voters
Lansford, Penn.	E		P	L	6	7	1	Board of Education
Franklin, Penn.	E		P	L	6	7	1	Board of Education
Phoenixville, Penn.	E		P	L	6	7	1	Board of Education
Carlisle, Penn.	E		P	L	6	7	1	Board of Education
Englewood, N. J.	A	Mayor		L	6	6	8	Board of School Estimate
Asbury Park, N. J.	A	Mayor		L	6	6	8	Board of School Estimate
Clinton, Mass.	E		P	L	3	6	7	Finance Comm. Town Meeting
Little Falls, N. Y.	A	Mayor		L	6	6	2	Board of Education
Saratoga Spring, N. Y.	E		Np	L	6	9	1	Board of Education
Bridgeton, N. J.	A	Mayor		L	6	6	8	Board of School Estimate
Millville, N. J.	A	Mayor		L	6	6	8	Board of School Estimate
Hornell, N. Y.	E		Np	L	6	6	1	Board of Education
Marlboro, Mass.	E		P	1L 7W	3	8	7	City Council
Weymouth, Mass.	E			1L 5W	3	6	7	Appropriation Commission Moderator—Town Meeting
Bradford, Penn.	E		P	L	6	7	1	Board of Education
Glens Falls, N. Y.	E		Np	L	6	9	1	Board of Education
Gardner, Mass.	E		P	L	3	6	7	Advisory Board—Selectmen—Town Meeting
Auburn, Maine	E		Np	W	2	11	7	City Council
Ansonia, Conn.	A	Mayor		W	3	9	9	Board of Apportionment
Dunkirk, New York	E		P	L	4	8	1	Board of Education
Olean, New York	E		Np	L	6	9	1	Board of Education
Shamokin, Penn.	E		P	L	6	7	1	Board of Education
Sharon, Penn.	E		P	L	6	7	1	Board of Education
Bloomfield, N. J.	A	Mayor		L	6	6	8	Board of School Estimate
Concord, N. H.	E		Np	L	6	11	7	Board of Est.—Vote of People.
Gloucester, Mass.	E		Np	L	3	10	7	City Council
Lebanon, Penn.	E		P	L	6	7	1	Board of Education

Plainfield, N. J.	A	Mayor		L	5	5	8	Board of School Estimate
Montclair, N. J.	A	Mayor		L	5	5	7	Board of School Estimate
Newburgh, N. Y.	E		Np	L	4	9	7	Manager—Mayor—City Council
Lewiston, Maine	E		P	W	2	14	7	City Government
Hazleton, Penn.	E		P	L	6	7	1	Board of Education
Easton, Penn.	E		P	L	6	7	1	Board of Education
Meriden, Conn.	E		P	L	4	12	5	Vote of People
Poughkeepsie, N. Y.	A	Mayor		L	7	7	9	City Council
Jamestown, N. Y.	E		Np	L	5	7	1	Board of Education
Everett, Mass.	E		Np	6W-3L	8	9	7	City Council
Perth Amboy, N. J.	A	Mayor		L	5	5	8	Board of School Estimate
Woonsocket, R. I.	E		P	Dis.	6	8*	7	Finance Commission—Council
Elmira, N. Y.	5E-4A	Mayor	Np	W	2	9	9	Common Council
Newton, Mass.	E		P	W	3	7	7	Mayor—Alderman
New Britain, Conn.	E		P	L	3	12	7	Board of Finance—Council
Altoona, Penn.	E		P	L	6	9	1	Board of Education
Passaic, N. J.	A	Mayor		L	3	9	8	Board of School Estimate
Hoboken, New Jersey	A	Mayor		L	3	9	8	Board of School Estimate
Harrisburg, Penn.	E		P	L	6	9	1	Board of Education
Bayonne, N. J.	A	Mayor		L	3	9	8	Board of School Estimate
Schenectady, N. Y.	A	Mayor		L	5	5	9	Board of Estimate and Apportionment—City Council
Elizabeth, New Jersey	A	Mayor		L	3	9	8	Board of School Estimate
Reading, Penn.	E		P	L	6	9	1	Board of Education
Fall River, Mass.	E		P	L	3	9	7	Mayor—Finance Commission—Board of Aldermen
Paterson, New Jersey	A	Mayor		L	3	9	8	Board of School Estimate
Scranton, Penn.	E		P	L	6	9	1	Board of Education
Providence, R. I.	E		P	W	6	33*	7	City Council—10 Aldermen, 40 Councilmen
Rochester, N. Y.	E		P	L	4	5	7	Board of Estimate and Apportionment—City Council
Jersey City, N. J.	A	Mayor		L	3	9	8	Board of School Estimate
Newark, New Jersey	A	Mayor		L	3	9	8	Board of School Estimate
New York City, N. Y.	A	Mayor			7	7	9	Board of Estimate and Apportionment—Board of Aldermen
SOUTH								
Winchester, Virginia	A	Judges†		W	3	12	9	City Council
Orlando, Fla.	E		Np	L	2	3	1	County School Commissioners
Frankfort, Kentucky	E		P		4	6	1	Board of Education

*Also three ex-officio members.
†Judges of the Circuit Court.
[1]See Chapter VI for different types of control.

TABLE ALPHA—Continued.

Facts Concerning the Board of Education.

Cities arranged in order of size, and grouped by geographical location.	Elected or Appointed	Appointed by Whom	Partisan or Non-Partisan	At Large or by Wards	Term of Years	Number of Members	Type of Control[1]	Final authority in the adoption of the school budget.
Carthage, Missouri	E		P	L	3	6	1	Board of Education
Cape Girardeau, Mo.	E		Np	L	3	6	1	Board of Education
Columbus, Miss.	E		Np	L	2	6	7	City Council
Frederick, Md.	A	Governor		L		6	9	County Commissioners
Henderson, Ky.	E		Np	L	4	9	1	Board of Education
Rome, Ga.	E		Np	L	4	5	7	City Commissioners
Jefferson City, Mo.	E		Np	L	3	6	1	Board of Education
Bluefield, W. Va.	E		P	L	4	3	1	Board of Education
Owensboro, Ky.	E		Np	L	4	9	1	Board of Education
Waycross, Ga.	E		Np	L	3	7	1	Board of Education
Parkersburg, W. Va.	E		Np	L	4	5	1	Board of Education
Paducah, Ky.	E		Np	L	4	6	1	Board of Education
Fort Smith, Ark.	E		Np	L	3	6	1	Board of Education
Springfield, Mo.	E		Np	L	3	6	1	Board of Education
Montgomery, Ala.	A	City Com.		L	5	5	9	City Commissioners
Roanoke, Va.	A	City Com.		L	3	6	9	City Commissioners
Wheeling, W. Va.	E		P	W	6	21	1	Board of Education
Covington, Ky.	E		Np	L	4	5	1	Board of Education
Mobile, Ala.	E		P	L	6	5	6	Vote of People
Richmond, Va.	A	Council		L	3	9	9	City Council
Kansas City, Missouri	E		P	L	6	6	1	Board of Education
New Orleans, La.	E		Np	L	6	5	1	Board of Education
St. Louis, Mo.	E		Np	L	6	12	1	Board of Education
GREAT LAKES								
Redwing, Minnesota	E		Np	W	2	9	7	[2]
Ludington, Michigan	E		Np	L	3	5	1	Board of Education
River Rouge, Michigan	E		Np	L	3	6	1	Board of Education
Wabash, Ind.[3]	A	Council		L	3	3	2	Board of Education
Crawfordsville, Ind.[3]	A	Council		L	3	3	2	Board of Education
New Philadelphia, Ohio	E		Np	L	4	5	6	C. B. C.[1]
Elwood, Ind.[3]	A	Council		L	3	3	2	Board of Education

Coshocton, Ohio	E		Np	L	4	5	6	C. B. C.[1]
Aipena, Mich.	E		Np	W	3	6	7	City Council
Adrian, Michigan	E		Np	L	3	6	5	Vote of Annual Meeting
Sault Ste. Marie, Mich.	E		Np	L	3	5	1	Board of Education
Boone, Iowa	E		Np	L	3	5	1	Board of Education
Owosso, Mich.	E		Np	L	3	6	1	Board of Education
Virginia, Minn.	E		Np	L	3	6	1	Board of Education
Granite City, Ill.	E		Np	L	3	10	1	Board of Education
Cairo, Ill.	E		Np	L	3	10	1	Board of Education
Clevsland Heights, Ohio	E		Np	L	4	5	6	C. B. C.[1]
Ironwood, Mich.	E		Np	L	2	5	1	Board of Education
Chillicothe, Ohio	E		Np	L	4	5	6	C. B. C.[1]
Findlay, Ohio	E		Np	L	4	5	6	C. B. C.[1]
Michigan City, Ind.[3]	A	Council		L	3	3	2	Board of Education
Ann Arbor, Mich.	E		Np	L	3	9	1	Board of Education
Appleton, Wis.	E		Np	Dis.	3	3	1	Board of Education
Freeport, Ill.	E		Np	L	3	10	1	Board of Education
Mason City, Iowa	E		Np	L	3	7	1	Board of Education
Beloit, Wis.	E		Np	L	3	6	1	Board of Education
Alliance, Ohio	E		Np	L	4	5	6	C. B. C.[1]
Ottumwa, Iowa	E		Np	L	3	7	1	Board of Education
Warren, Ohio	E		Np	L	4	5	6	C. B. C.[1]
Marion, Ohio	E		Np	L	4	5	6	C. B. C.[1]
Moline, Ill.	E		Np	L	3	12	1	Board of Education
Portsmouth, Ohio	E		Np	L	4	5	6	C. B. C.[1]
East Chicago, Ind.[3]	E		Np	L	3	3	1	Board of Education
Quincy, Ill.	E		Np	L	3	7	1	Board of Education
Battle Creek, Mich.	E		Np	L	3	6	1	Board of Education
Aurora (E), Illinois	E		Np	L	3	9	1	Board of Education
Aurora (W), Illinois	E		Np	L		7	1	Board of Education
Muskegon, Michigan	E		Np	L	3	6	1	Board of Education
Kenosha, Wis.	E		Np	W	2	18	7	City Council
Decatur, Ill.	E		Np	L	3	3	1	Board of Education
Jackson, Mich.	E		Np	W	3	9	5	Vote of Annual Meeting
Springfield, Ill.	E		Np	L	3	7	1	Board of Education
Springfield, O.	E		Np	L	4	5	6	C. B. C.[1]
Saginaw, E. S., Mich.	E		Np	W	2	13	7	Board of Estimate
Terre Haute, Ind.[3]	E		Np	L	4	5	1	Board of Education
Grand Rapids, Mich.	E		Np	L	3	9	7	City Commissioners

[1]County Budget Commission.
[2]Redwing became Fiscally Independent this year.
[3]By a recent law, 20 tax payers may ask the Tax Commission to review the school levy. This Commission may order a reduction.
[4]See Chapter VI for different types of control.

TABLE ALPHA—Concluded.

Facts Concerning the Board of Education.

Cities arranged in order of size, and grouped by geographical location.	Elected or Appointed	Appointed by Whom	Partisan or Non-Partisan	At Large or by Wards	Term of Years	Number of Members	Type of Control[1]	Final authority in the adoption of the school budget.
Minneapolis, Minn.	E		Np	L	6	7	7	Board of Estimate and Taxation
Cincinnati, Ohio	E		Np	L	4	7	6	C. B. C.[2]
Cleveland, Ohio	E		Np	L	4	7	6	C. B. C.[2]
Detroit, Mich.	E		Np	L	6	7	7	Mayor and Council
Chicago, Ill.	A	Mayor		L	5	11	2	Board of Education
WEST								
Ada, Oklahoma	E		Np	W	4	5	4	Excise Board
Grand Junction, Colo.	E		Np	L	6	5	1	Board of Education
Ottawa, Kan.	E		Np	L	4	6	1	Board of Education
Redlands, Calif.	E		Np	L	3	3	3	Board of Education—Supervisors
Newton, Kan.	E		Np	L	4	6	1	Board of Education
				Nom. W				
Sapulpa, Okla.	E		Np	El. L	4	6	4	Excise Board
Hastings, Neb.	E		Np	L	3	9	1	Board of Education
Helena, Mont.	E		Np	L	3	7	1	Board of Education
Atchison, Kan.	E		Np	L	4	6	1	Board of Education
Vancouver, Wash.	E		Np	L	3	5	1	Board of Education
Cheyenne, Wyo.	E		Np	L	3	6	5	Vote of Annual Meeting
Grand Forks, N. D.	E		Np	7W-2L	3	9	1	Board of Education
Salina, Kan.	E		Np	L	3	6	1	Board of Education
Ardmore, Okla.	E		P	W	4	5	4	Excise Board
				Nom. W				
Shawnee, Okla.	E		P	El. L	4	7	4	Excise Board
Santa Ana, Calif.	E		Np	L	4	5	3	Board of Education—Supervisors
Walla Walla, Wash.	E		Np	L	3	5	1	Board of Education
Pittsburg, Kansas	E		Np	L	4	6	1	Board of Education
Bakersfield, Calif.	E		Np	L	4	5	3	Board of Education—Supervisors
Riverside, Calif.	E		Np	L	4	5	3	Board of Education—Supervisors
Hutchinson, Kansas	E		Np	L	4	6	1	Board of Education
Great Falls, Mont.	E		Np	L	3	7	1	Board of Education
San Jose, Calif.	E		Np	L	4	5	3	Board of Education—Supervisors
Fresno, Calif.	E		Np	L	4	5	3	Board of Education—Supervisors
Lincoln, Neb.	E		Np	L	6	6	1	Board of Education

Long Beach, Cal.	E	Np	L	3	5	3	Board of Education—Supervisors
Spokane, Wash.	E	Np	L	3	5	1	Board of Education
Omaha, Neb.	E	Np	L	4	12	1	Board of Education
Oakland, Calif.	E	Np	L	4	7	3	Board of Education—Supervisors
Denver, Colo.	E	Np	L	6	7	1	Board of Education
Seattle, Wash.	E	Np	L	3	5	1	Board of Education
Los Angeles, Cal	E	Np	L	2	7	3	Board of Education—Supervisors

[1]See Chapter VI for different types of control.
[2]County Budget Commission.

APPENDIX III.

Table Beta, which follows, gives the data expressed in per cents from which the index numbers were computed. Full explanation of the sources of data will be found in Appendix I, page 88, and the meaning of each factor is explained in Chapter VII.

TABLE BETA.

Data From Which the Index Numbers Were Computed.

Cities arranged in order of size, and grouped by geographical location.	Factors that make up the index numbers.[1]					
	Factor One	Factor Two	Factor Three	Factor Four	Factor Five	Factor Six
North Atlantic						
Tyrone, Pennsylvania	48.4	36.1	27.6	44.8	96.0	69.1
Rutherford, New Jersey	48.0	100	53.0	85	97	38.7
Lansford, Pennsylvania	45.3	86.6	49.3	65.9	100	83
Franklin, Pennsylvania	45.3	67.8	100	100	97.8	125
Pheonixville, Pennsylvania	56.9	81.2	9.4	81	100	59.6
Carlisle, Pennsylvania	46.4	12.9	91.3	75.9	98.2	138.7
Englewood, New Jersey	46.2	94.7	49.8	83.5	100	52.5
Asbury Park, New Jersey	46.5	100	0	98.7	96.8	33
Clinton, Massachusetts	25.1	83.3	58.8	87	100	88.3
Little Falls, New York	25	80.6	0	83.7	100	70.4
Saratoga Springs, New York	59.8	94.5	0	85.7	100	49.2
Bridgeton, New Jersey	38.8	92.9	74.6	64.5	89.2	72
Millville, New Jersey	16.2	42.6	50.6	75	84.7	64.3
Hornell, New York	27.7	80	61.3	96.5	96.1	47.8
Marlboro, Massachusetts	22.2	95	0	71	100	91
Weymouth, Massuchusetts	15.6	26.2	83.3	81.7	93.1	81.2
Bradford, Pennsylvania	53	40.3	0	46.5	100	73.9
Glens Falls, New York	62.1	100	21.5	96.8	98.6	88.9
Gardner, Massachusetts	28.2	45.5	75.8	83.7	100	110.5
Auburn, Maine	50.3	70	70.8	79	100	55.2

Ansonia, Connecticut	19.4	100	0	100	69	121.1
Dunkirk, New York	37.8	97.2	51.3	76.4	97.9	37.1
Olean, New York	46	76	15.2	85.6	98.2	94.6
Shamokin, Pennsylvania	22.2	50	0	37	100	104.6
Sharon, Pennsylvania	23.3	28.1	0	53.4	69	134.7
Bloomfield, New Jersey	23.4	92.2	100	97	90.2	83
Concord, New Hampshire	59.2	71.4	100	92.1	99.2	50.9
Gloucester, Massachusetts	33.9	67.5	30.6	46.6	90.8	59.7
Lebanon, Pennsylvania	37.4	49.2	38.5	97.2	99.5	94.6
Plainfield, New Jersey	35.1	94.5	45.1	95.5	92.8	35.8
Montclair, New Jersey	39.3	98.9	0	100	99.2	59.5
Newburgh, New York	22.1	83.5	0	79.6	87.2	68.5
Lewiston, Maine	50.1	84.4	90.1	97.8	100	73.1
Hazleton, Pennsylvania	25.4	42.5	19.5	97.1	95.2	61.6
Easton, Pennsylvania	31.6	11.6	6.7	62	84.1	69
Meriden, Connecticut	29.3	70.1	40.6	87	99.1	109.8
Poughkeepsie, New York	43.9	54.7	15.2	75	90.1	34.1
Jamestown, New York	36	45.6	63.5	67.1	78.5	68.2
Everett, Massachusetts	31	35.1	64.2	80.6	88.7	84.6
Perth Amboy, New Jersey	8.1	48.1	16.9	83.1	94.8	51.9
Woonsocket, R. I.	15.8	70.7	29.4	72.4	100	115.5
Elmira, New York	64	24.6	71.4	88.4	100	72.1
Newton, Massachusetts	46.9	96.4	56.7	79.2	98.8	107.7
New Britain, Connecticut	24.7	100	0	92.2	92.1	102.6
Altoona, Pennsylvania	40.4	89.8	10.8	49.1	95.4	82.2
Passaic, New Jersey	7.4	90.5	27.8	82	77.9	70.2
Hoboken, New Jersey	8.4	84.9	0	57.7	99.9	47.2

[1]See Chapter VII, Page 65 for detailed explanation of each factor.

TABLE BETA — Continued

Cities arranged in order of size, and grouped by geographical location.	Factors that make up the index numbers.[1] Factor One	Factor Two	Factor Three	Factor Four	Factor Five	Factor Six
Harrisburg, Pennsylvania	38	61	28	62.4	100	42.3
Bayonne, New Jersey	14.8	62.8	0	97.5	99.9	32.1
Schenectady, New York	47	87.3	34.4	86.6	73.5	86.3
Elizabeth, New Jersey	17.7	42.3	42.5	77.9	65.7	41.6
Reading, Pennsylvania	13.7	22.6	13.9	48.1	100	114.8
Fall River, Massachusetts	12.7	59.3	55.3	79.9	80.6	117.5
Paterson, New Jersey	12.8	72.5	0	100	100	74.7
Scranton, Pennsylvania	21.4	50.4	12.4	49.6	72.6	60.9
Providence, Rhode Island	18.7	51.4	17.7	84.3	100	41.5
Rochester, New York	30.6	94.3	0	77.9	89.2	44.9
Jersey City, New Jersey	12.5	52.5	1.1	93.4	83.8	45.7
Newark, New Jersey	12.1	84.2	8	96.8	95.4	105.8
New York City, New York	17.1	40.6	1.5	98	68.8	44 *
South						
Winchester, Virginia	43.1	41.1	58.8	50	41.6	88
Orlando, Florida	72.2	100	24.5	63	95.5	132.3
Frankfort, Kentucky	47.1	69.5	0	24.3	100	65.6
Carthage, Missouri	50.7	19.5	100	55	95.7	54.7
Cape Girardeau, Missouri	58.5	55.8	100	97.7	91.3	43.2
Columbus, Mississippi	42	55.5	100	60.7	58.5	33
Frederick, Maryland	9	88.7	0	25	79.3	67
Henderson, Kentucky	33.6	62.9	68.1	24.2	100	9.4
Rome, Georgia	34.2	48.6	81.4	30	80.6	16.6
Jefferson City, Missouri	52.9	93	100	42.6	100	32.8
Bluefield, West Virginia	19.9	74.3	12.9	88.1	100	62.3
Owensboro, Kentucky	52.3	41.2	87.8	41.6	93.9	50.4

Waycross, Georgia	23.1	7.5	31.9	67.9	100	21.2
Parkersburg, West Virginia	51.6	74.6	32.9	52.9	93.1	49.3
Paducah, Kentucky	16.8	37.3	100	54.4	74.7	68.2
Fort Smith, Arkansas	25.4	75.9	42	38.5	94	55.8
Springfield, Missouri	41.1	50.7	93.3	71.8	96.3	76.2
Montgomery, Alabama	27.4	3.1	46.1	35.4	81.4	7.7
Roanoke, Virginia	48.1	85.4	15.1	52.1	90.8	35.3
Wheeling, West Virginia	62.9	92.6	13.3	38	91.3	73.1
Covington, Kentucky	19.4	98.5	64	63.8	96.4	18.7
Mobile, Alabama	29.6	95.2	31.8	22.5	82.4	64.5
Richmond, Virginia	38.7	89	35.8	65.6	81	57.2
Kansas City, Missouri	31.2	53.5	75.6	75	82.6	43.7
New Orleans, Louisiana	74.6	70.5	55.3	98.2	86.4	94
St. Louis, Missouri	25.9	0	88.4	100	100	48.2
Great Lakes.						
Redwing, Minnesota	52.1	92.3	68.4	85.4	100	59.7
Ludington, Michigan	69	53.3	79.8	25.5	95.8	68.3
River Rouge, Michigan	16.1	45.4	100	97.6	85.2	351.7
Wabash, Indiana	35.6	78	0	69.6	100	76.2
Crawfordsville, Indiana	74.7	46.6	100	56	93.6	22.3
New Philadelphia, Ohio	50.1	85.1	73.3	66	100	120.9
Elwood, Indiana	43.3	50	72.2	43.7	93.3	30.8
Coshocton, Ohio	27.5	100	57.5	34.3	95	56.4
Alpena, Michigan	51.5	83.3	100	50	100	48.5
Adrian, Michigan	74.6	76.6	13.9	78.2	93.7	74.4
Sault Ste. Marie, Michigan	58.7	64.8	84.3	81.9	100	67.8
Boone, Iowa	56.4	90.7	100	68.1	100	84.9

*The percent of increase of elementary women teachers' salaries, for New York City, is an estimate based on the salary schedules.

[1]See Chapter VII, Page 65 for detailed explanation of each factor.

TABLE BETA — Continued

Cities arranged in order of size, and grouped by geographical location.	Factors that make up the index numbers.[1]					
	Factor One	Factor Two	Factor Three	Factor Four	Factor Five	Factor Six
Owosso, Michigan	62.8	72.9	70.4	64.7	84	156.1
Virginia, Minnesota	42.1	95.7	60.6	91.1	94.6	94.3
Granite City, Illinois	21.3	62	45.5	20	64.7	51
Cairo, Illinois	16.8	78.9	57.7	56.9	95.8	86.6
Cleveland Heights, Ohio	47.2	100	100	95	23.1	204.4
Ironwood, Michigan	22.2	51.3	18.3	100	92.6	117.9
Chillicothe, Ohio	42.3	42.1	100	51.8	100	32.6
Findlay, Ohio	62.3	47.6	41.7	46.1	100	68.6
Michigan City, Indiana	22.3	28.8	100	60	98.9	104.5
Ann Arbor, Michigan	63	94.8	36.8	75	98.6	106.6
Appleton, Wisconsin	50.1	92.7	76.9	91.1	99.1	57.1
Freeport, Illinois	43.5	40	89.9	50	100	82.5
Mason City, Iowa	64.4	92.6	68	79.3	98.2	69.5
Beloit, Wisconsin	43.3	50	89.5	85.1	97.3	65.9
Alliance, Ohio	44.8	87.5	20.7	65.7	72.7	95.5
Ottumwa, Iowa	44	90.3	100	46.6	95.1	71.9
Warren, Ohio	32	100	78.7	62.1	92.9	61.0
Marion, Ohio	41.8	98.3	86.2	52	82.4	104.8
Moline, Illinois	57	67.3	86.8	91.9	99.3	50.3
Portsmouth, Ohio	34	61.4	30.5	32.7	100	62.4
East Chicago, Indiana	14.1	93.2	43	92	100	109.9
Quincy, Illinois	31.4	85.8	100	82.1	100	74.5
Battle Creek, Michigan	51.8	62.9	100	88.6	88.3	116.5
Aurora (E), Illinois	47.4	73.2	92.6	53	97.8	40.2
Aurora (W), Illinois	54.1	93	76.1	68.7	100	53.9
Muskegon, Michigan	29	88.5	50.7	80.6	95.8	54.1
Kenosha, Wisconsin	25.9	83.5	43.8	87.2	65.3	55.3

Decatur, Illinois	32.2	21.3	67 2	72.6	77.2	86.9
Jackson, Michigan	35.3	100	30.6	80.6	94.7	81.1
Springfield, Illinois	32.1	46	100	41.7	95.2	40
Springfield, Ohio	36.4	76	70.5	36.4	90.6	39.4
Saginaw E. S., Michigan	38.1	90	75.4	96	91.8	90.2
Terre Haute, Indiana	40.9	66.9	64.3	85	100	42.5
Grand Rapids, Michigan	46.8	48.8	48.8	80.3	97.8	21.8
Minneapolis, Minnesota	28.3	76	67.7	96.3	88.6	83.2
Cincinnati, Ohio	24.4	45.4	45.4	70.7	95.3	83.1
Cleveland, Ohio	24.2	71.5	12.7	80	91.1	77
Detroit, Michigan	20.8	26.2	26.2	88.1	81.2	56.9
Chicago, Illinois	18	19.1	19.8	83.8	95.4	81.3
West						
Ada, Oklahoma	38.1	60	100	33	100	52
Grand Junction, Colorado	48	62.5	100	75	100	90.9
Ottawa, Kansas	53.7	80.7	100	88	100	129.9
Redlands, California	86.3	100	100	100	100	86.6
Newton, Kansas	46.9	88.3	100	30	85.3	97.5
Sapulpa, Oklahoma	15.5	21.5	73.2	67	80.3	116.5
Hastings, Nebraska	60.2	84.2	100	100	95.3	64.9
Helena, Montana	72	91.4	100	83.8	99.4	59.6
Atchison, Kansas	58	82.5	25.2	71.4	100	98.5
Vancouver, Washington	87.1	95.2	100	77.5	98.9	52.5
Cheyenne, Wyoming	28.1	75.5	84.4	87.5	75.6	57.8
Grand Forks, North Dakota	40.7	100	50.7	86	100	45.7
Salina, Kansas	67	0	60.8	60	89.9	115.6
Ardmore, Oklahoma	43.8	35.2	0	96	95.7	142.9
Shawnee, Oklahoma	47.6	85.3	100	74.3	100	63

[1]See Chapter VII, Page 65 for detailed explanation of each factor.

TABLE BETA—Concluded

Cities arranged in order of size, and grouped by geographical location.	Factors that make up the index numbers.[1]					
	Factor One	Factor Two	Factor Three	Factor Four	Factor Five	Factor Six
Santa Ana, California	65.7	96.4	100	98.5	100	23.3
Walla Walla, Washington	69.7	96.9	100	96.4	100	51
Pittsburg, Kansas	30	56.3	100	87	84.2	56.1
Bakersfield, California	11.3	69.5	100	99	82.5	64.9
Riverside, California	70.7	95	83.6	75.4	98.6	34.4
Hutchinson, Kansas	45.6	71.2	90.1	56.3	99.5	76.7
Great Falls, Montana	44.2	100	65.7	89.4	100	66.4
San Jose, California	44.1	65.9	100	66	100	61.8
Fresno, California	31.4	61.1	92.1	90.2	48.2	35.5
Lincoln, Nebraska	63.1	84.1	68	90	79.3	98.8
Long Beach, California	59.5	64.7	100	94.7	66.2	46.8
Spokane, Washington	45.9	67.9	89.7	62.5	98.9	29.4
Omaha, Nebraska	29.6	69.9	14	76	94.4	67.9
Oakland, California	43.3	79.7	80.3	71.7	80.8	61.6
Denver, Colorado	30	80.4	51.6	70.9	79.9	83
Seattle, Washington	41.9	88.1	90.3	97.1	84.4	55.6
Los Angeles, California	18.3	74.8	99	92	88.2	28.8

[1]See Chapter VII, Page 65 for detailed explanation of each factor.

APPENDIX IV.

Table Delta, which follows, gives the same data as Table Beta. However, the scores are expressed in S. D. values in this table while in Table Beta they are expressed in percentages. The index number is also given for each city. For explanation of the meaning of each factor, and the method of computing the index number, see Chapter VII.

TABLE DELTA.

Standard Deviation Values of Each Factor and the Index Number for Each City.

Cities arranged in order of size, and grouped by geographical location. North Atlantic	Factors that make up the index number.[1]						
	Factor One	Factor Two	Factor Three	Factor Four	Factor Five	Factor Six	Index Numbers
Tyrone, Pennsylvania	.54	−1.31	− .79	−1.33	.39	− .08	−2.58
Rutherford, New Jersey	.52	1.25	− .07	.59	.47	−1.13	1.63
Lansford, Pennsylvania	.36	.72	− .17	− .32	.72	.40	1.71
Franklin, Pennsylvania	.36	− .04	1.27	1.30	.54	1.85	5.28
Pheonixville, Pennsylvania	1.04	.50	−1.30	.40	.72	− .41	.95
Carlisle, Pennsylvania	.43	−2.25	1.02	.15	.57	2.32	2.24
Englewood, New Jersey	.41	1.04	− .16	.51	.72	− .65	1.87
Asbury Park, New Jersey	.43	1.25	−1.57	1.24	.45	−1.33	.47
Clinton, Massachusetts	− .81	.58	.10	.68	.72	.58	1.85
Little Falls, New York	− .82	.47	−1.57	.52	.72	− .03	− .71
Saratoga Springs, New York	1.20	1.03	−1.57	.59	.72	− .77	1.20
Bridgeton, New Jersey	− .02	.97	.55	− .39	− .19	.02	.94
Millville, New Jersey	−1.33	−1.05	− .13	.11	− .56	− .25	−3.21
Hornell, New York	− .66	.45	17	1.13	.40	− .81	.68
Marlboro, Massachusetts	− .98	1.05	−1.57	− .08	.72	.68	− .18
Weymouth, Massachusetts	−1.37	−1.71	.80	.43	.14	.34	−1.37
Bradford, Pennsylvania	.81	−1.15	−1.57	−1.25	.72	.09	−2.35
Glen Falls, New York	1.34	1.25	− .96	1.15	.61	.60	3.99
Gardner, Massachusetts	− .63	− .94	.58	.52	.72	1.35	1.60
Auburn, Maine	.65	.05	.44	.30	.72	− .56	1.60
Ansonia, Connecticut	−1.15	1.25	−1.57	1.30	−1.88	1.71	− .34

Dunkirk, New York	– .08	1.14	– .11	.18	.55	–1.18	.50
Olean, New York	.40	.20	–1.14	.62	.57	.80	1.54
Shamokin, Pennsylvania	– .98	– .76	–1.57	–1.70	.72	1.15	–3.14
Sharon, Pennsylvania	– .92	–1.64	–1.57	– .92	–1.88	2.18	–4.75
Bloomfield, New Jersey	– .91	.94	1.27	1.16	– .10	.40	2.76
Concord, New Hampshire	1.17	.11	1.27	.92	.66	– .71	3.42
Gloucester, Massachusetts	– .30	– .05	– .42	–1.24	– .05	– .40	–2.46
Lebanon, Pennsylvania	– .10	– .79	– .48	1.17	.68	.80	1.28
Plainfield, New Jersey	– .23	1.03	– .29	1.09	.12	–1.23	.49
Monteclair, New Jersey	.01	1.21	–1.57	1.30	.66	– .41	1.20
Newburgh, New York	– .99	.59	–1.57	.33	– .35	– .10	–2.09
Lewiston, Maine	.64	.63	.99	1.20	.72	.06	4.24
Hazleton, Pennsylvania	– .80	–1.06	–1.02	1.16	.32	– .34	–1.74
Easton, Pennsylvania	– .44	–2.31	–1.38	– .51	– .61	– .08	–5.33
Meriden, Connecticut	– .57	.05	– .42	.68	.65	1.33	1.72
Poughkeepsie, New York	.28	– .57	–1.14	.11	– .11	–1.29	–2.72
Jamestown, New York	– .18	– .93	.23	– .27	–1.09	– .11	–2.35
Everett, Massachusetts	– .47	–1.35	.25	.38	– .23	.46	– .96
Perth Amboy, New Jersey	–1.81	– .83	–1.09	.50	.29	– .67	–3.61
Woonsocket, Rhode Island	–1.36	.08	– .74	– .01	.72	1.52	.21
Elmira, New York	1.45	–1.78	.46	.75	.72	.02	1.62
Newton, Massachusetts	.45	1.46	.04	.31	.62	1.25	3.78
New Britain, Connecticut	– .84	1.25	–1.57	.93	.06	1.08	.91
Altoona, Pennsylvania	.08	.84	–1.26	–1.12	.34	.37	– .75
Passaic, New Jersey	–1.84	.87	– .78	.44	–1.14	– .04	–2.49
Hoboken, New Jersey	–1.79	.65	–1.57	– .72	.72	– .84	–3.55
Harrisburg, Pennsylvania	– .06	– .31	– .78	– .49	.72	–1.00	–1.92
Bayonne, New Jersey	–1.41	– .24	–1.57	1.18	.72	–1.36	–2.68

[1]See Chapter VII, Page 65, for detailed explanation of each factor.

TABLE DELTA—Continued

Cities arranged in order of size and grouped by geographical location.	Factors that make up the index number.[1] Factor One	Factor Two	Factor Three	Factor Four	Factor Five	Factor Six	Index Numbers
Schenectady, New York	.46	.74	– .59	.66	–1.51	.51	.27
Elizabeth, New Jersey	–1.25	–1.07	– .36	.25	–2.16	–1.03	–5.62
Reading, Pennsylvania	–1.48	–1.87	–1.18	–1.17	.72	1.49	–3.49
Fall River, Massachusetts	–1.54	– .38	0	.34	– .91	1.60	– .89
Paterson, New Jersey	–1.53	.15	–1.57	1.30	.72	.11	– .82
Scranton, Pennsylvania	–1.03	– .74	–1.22	–1.10	–1.58	– .36	–6.03
Providence, Rhode Island	–1.19	– .70	–1.07	.55	.72	–1.03	–2.72
Rochester, New York	– .50	1.03	–1.57	.25	– .19	– .91	–1.89
Jersey City, New Jersey	–1.55	– .66	–1.54	.99	– .64	– .89	–4.29
Newark, New Jersey	–1.57	.62	–1.34	1.15	.34	1.19	.39
New York City, New York	–1.28	–1.13	–1.53	1.21	–1.90	– .92	–5.55
South							
Winchester, Virginia	.23	–1.11	.10	–1.08	–3.00	.57	–4.29
Orlando, Florida	1.93	1.25	– .88	– .46	.34	2.10	4.28
Frankfort, Kentucky	.47	.03	–1.57	–2.31	.72	– .20	–2.86
Carthage, Missouri	.68	–1.98	1.27	– .84	.36	– .58	–1.09
Cape Girardeau, Missouri	1.13	– .52	1.27	1.19	– .01	– .97	2.09
Columbus, Mississippi	.17	– .54	1.27	– .57	–2.77	–1.33	–3.77
Frederick, Maryland	–1.75	.80	–1.57	–2.27	–1.02	– .15	–5.96
Henderson, Kentucky	– .32	– .24	.36	–2.31	.72	–2.14	–3.93
Rome, Georgia	– .29	– .81	.74	–2.03	– .91	–1.89	–5.19
Jefferson City, Missouri	.60	.97	1.27	–1.43	.72	–1.33	1.00
Bluefield, West Virginia	–1.12	.22	–1.21	.73	.72	– .31	– .97
Owensboro, Kentucky	.77	–1.11	.92	–1.48	.21	– .73	–1.42

Waycross, Georgia	- .93	-2.46	- .67	- .23	.72	-1.73	-5.30
Parkersburg, West Virginia	.73	.23	- .64	- .94	.14	- .76	-1.24
Paducah, Kentucky	-1.30	-1.27	1.27	- .87	-1.40	- .11	-3.68
Fort Smith, Arkansas	- .80	.29	- .38	-1.63	.22	- .54	-2.48
Springfield, Missouri	.12	- .73	1.08	- .04	.41	.17	1.01
Montgomery, Alabama	- .68	-2.64	- .26	-1.78	- .84	-2.20	-8.40
Roanoke, Virginia	.52	.67	-1.14	- .98	- .05	-1.25	-2.23
Wheeling, West Virginia	1.38	.96	-1.19	-1.65	- .01	.06	- .45
Covington, Kentucky	-1.15	1.19	.25	- .42	.42	-1.82	-1.53
Mobile, Alabama	- .55	1.06	- .67	-2.39	- .76	- .24	-3.55
Richmond, Virginia	- .02	.81	- .55	- .34	- .87	- .49	-1.46
Kansas City, Missouri	- .46	- .62	.58	.11	- .74	- .96	-2.09
New Orleans, Louisiana	2.06	.07	0	1.22	- .42	.78	3.71
St. Louis, Missouri	- .77	-2.76	.94	1.30	.72	- .80	-1.37
Great Lakes							
Redwing, Minnesota	.76	.94	.37	.61	.72	- .40	3.00
Ludington, Michigan	1.74	- .62	.70	-2.25	.37	- .11	- .17
River Rouge, Michigan	-1.34	- .94	1.27	1.19	- .52	3.00	2.66
Wabash, Indiana	- .20	.37	-1.57	- .15	.72	.17	- .66
Crawfordsville, Indiana	2.07	- .89	1.27	- .80	.19	-1.69	.15
New Philadelphia, Ohio	.64	.66	.51	- .32	.72	1.71	3.92
Elwood, Indiana	.24	- .76	.48	-1.38	.16	-1.40	-2.66
Coshocton, Ohio	- .68	1.25	.06	-1.83	.30	- .52	-1.42
Alpena, Michigan	.72	.58	1.27	-1.08	.72	- .79	1.42
Adrian, Michigan	2.06	.31	-1.18	.26	.19	.10	1.74
Sault Ste. Marie, Michigan	1.14	- .16	.82	.44	.72	- .12	2.84
Boone, Iowa	1.01	.88	1.27	- .22	.72	.47	4.13
Owosso, Michigan	1.38	.17	.43	- .38	- .62	2.92	3.90

[1]The factors are expressed in Standard Deviation Values.

TABLE DELTA — Continued

Cities arranged in order of size, and grouped by geographical location.	Factors that make up the index number.[1] Factor One	Factor Two	Factor Three	Factor Four	Factor Five	Factor Six	Index Numbers
Virginia, Minnesota	.18	1.08	.15	.88	.27	.79	3.35
Granite City, Illinois	–1.04	.27	– .28	–2.51	–2.23	– .70	–6.49
Cairo, Illinois	– .72	.41	.07	– .75	.37	.52	– .10
Cleveland Heights, Ohio	.47	1.25	1.27	1.06	–3.00	3.00	4.05
Ironwood, Michigan	– .98	– .70	–1.05	1.30	.10	1.60	.27
Chillicothe, Ohio	.19	–1.07	1.27	–1.00	.72	–1.34	–1.23
Findlay, Ohio	1.35	– .85	– .39	–1.27	.72	– .10	– .54
Michigan City, Indiana	– .98	–1.61	1.27	– .61	.63	1.14	– .16
Ann Arbor, Michigan	1.39	1.05	– .53	.11	.61	1.21	3.84
Appleton, Wisconsin	.64	.96	.61	.88	.65	– .49	3.25
Freeport, Illinois	.26	–1.16	.98	–1.08	.72	.38	.10
Mason City, Iowa	1.47	.96	.36	.31	.57	– .07	3.60
Beloit, Wisconsin	.24	– .76	.97	.59	.50	– .19	1.35
Alliance, Ohio	.33	.75	– .98	– .33	–1.57	.83	– .97
Ottumwa, Iowa	.29	.86	1.27	–1.24	.31	.02	1.51
Warren, Ohio	– .41	1.25	.67	– .51	.13	– .36	.77
Marion, Ohio	.16	1.19	.88	– .99	– .76	1.15	1.63
Moline, Illinois	1.04	– .06	.90	.92	.66	– .73	2.73
Portsmouth, Ohio	– .30	– .30	– .71	–1.91	.72	– .31	–2.81
East Chicago, Indiana	–1.45	.98	– .35	.92	.72	1.33	2.15
Quincy, Illinois	– .45	.68	1.27	.45	.72	.11	2.78
Battle Creek, Michigan	.74	– .24	1.27	.76	– .26	1.56	3.83
Aurora (E), Illinois	.48	.18	1.06	– .94	.54	–1.08	.24

Aurora (W), Illinois	.87	.97	.59	− .19	.72	− .60	2.36
Muskegon, Michigan	− .59	.79	− .13	.38	.37	− .60	.22
Kenosha, Wisconsin	− .77	.59	− .33	.69	−2.19	− .56	−2.57
Decatur, Illinois	− .40	−1.91	.34	0	−1.19	.54	−2.62
Jackson, Michigan	− .22	1.25	− .70	.38	.28	.34	1.33
Springfield, Illinois	− .41	− .92	1.27	−1.48	.32	−1.08	−2.30
Springfield, Ohio	− .16	.29	.43	−1.73	− .07	−1.11	−2.35
Saginaw E. S., Michigan	− .06	.85	.57	1.11	.03	.65	3.15
Terre Haute, Indiana	.11	− .08	.26	.59	.72	−1.00	.60
Grand Rapids, Michigan	.45	− .80	− .19	.36	.54	−1.71	−1.35
Minneapolis, Minnesota	− .63	.29	.35	1.12	− .24	.41	1.30
Cincinnati, Ohio	− .86	− .94	− .28	− .10	.33	.40	−1.45
Cleveland, Ohio	− .87	.11	−1.21	.35	− .03	.19	−1.46
Detroit, Michigan	−1.06	−1.71	− .83	.73	− .86	− .50	−4.23
Chicago, Illinois	−1.23	−2.00	−1.01	.53	.34	.34	−3.03
West							
Ada, Oklahoma	− .06	− .35	1.27	−1.89	.72	− .67	− .98
Grand Junction, Colorado	.52	− .25	1.27	.11	.72	.67	3.04
Ottawa, Kansas	.85	.48	1.27	.73	.72	2.02	6.07
Redlands, California	2.75	1.25	1.27	1.30	.72	.52	7.81
Newton, Kansas	.45	.78	1.27	−2.03	− .51	.90	.86
Sapulpa, Oklahoma	−1.37	−1.90	.51	− .27	− .93	1.56	−2.40
Hastings, Nebraska	1.23	.62	1.27	1.30	.33	− .22	4.53
Helena, Montana	1.91	.91	1.27	.53	.67	− .41	4.88
Atchison, Kansas	1.10	.55	− .86	− .06	.72	.94	2.39
Vancouver, Washington	2.79	1.06	1.27	.23	.63	− .65	5.33
Cheyenne, Wyoming	− .64	.27	.83	.70	−1.33	− .47	− .65
Grand Forks, North Dakota	.09	1.25	− .13	.63	.72	− .89	1.67

[1]The factors are expressed in Standard Deviation Values.

TABLE DELTA—Concluded

Cities arranged in order of size, and grouped by geographical location.	Factors that make up the index numbers.[1] Factor One	Factor Two	Factor Three	Factor Four	Factor Five	Factor Six	Index Numbers
Salina, Kansas	1.63	−2.76	.16	− .61	− .13	1.53	− .18
Ardmore, Oklahoma	.27	−1.35	−1.57	1.11	.36	2.47	1.29
Shawnee, Oklahoma	.50	.66	1.27	.08	.72	− .29	2.94
Santa Ana, California	1.55	1.11	1.27	1.23	.72	−1.66	4.22
Walla Walla, Washington	1.78	1.13	1.27	1.13	.72	− .70	5.33
Pittsburg, Kansas	− .53	− .50	1.27	.68	− .61	− .53	− .22
Bakersfield, California	−1.62	.03	1.27	1.25	− .75	− .22	− .04
Riverside, California	1.84	1.05	.80	.13	.61	−1.28	3.15
Hutchinson, Kansas	.38	.10	.99	− .78	.68	.18	1.55
Great Falls, Montana	.29	1.25	.30	.80	.72	− .17	3.19
San Jose, California	.29	− .12	1.27	− .32	.72	− .33	1.51
Fresno, California	− .45	− .31	1.05	.83	−3.00	−1.24	−3.12
Lincoln, Nebraska	1.40	.62	.36	.82	−1.02	.95	3.13
Long Beach, California	1.19	− .17	1.27	1.05	−2.12	− .85	.37
Spokane, Washington	.40	− .04	.98	− .49	.63	−1.45	.03
Omaha, Nebraska	− .55	.04	−1.17	.16	.25	− .12	−1.39
Oakland, California	.24	.44	.71	− .05	− .89	− .34	.11
Denver, Colorado	− .53	.47	− .11	− .09	− .97	.40	− .83
Seattle, Washington	.16	.78	.99	1.16	− .59	− .55	1.95
Los Angeles, California	−1.21	.24	1.24	.92	− .27	−1.47	− .55

[1]The factors are expressed in Standard Deviation Values.

APPENDIX V.

The Biserial r.

The formula for the computation of the biserial r is as follows:

$$r = \frac{\frac{\bar{p}}{S.D._1}}{\frac{\bar{q}}{S.D._2}} \qquad (1)$$

In the problem under consideration:

$$\frac{\bar{p}}{S.D._1} = \frac{-.76-(+.03)}{2.85}$$

where $\bar{p}$ is the difference between the mean of the dependent cities and the mean of the total, and S. D.$_1$ is the standard deviation of the total. The denominator of the fraction is

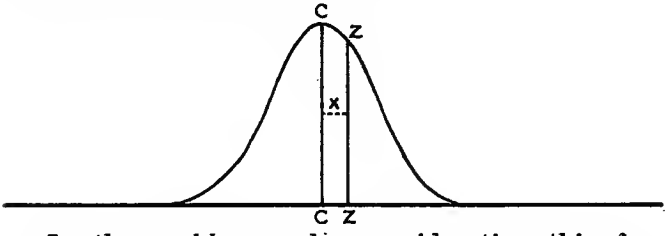
$$\frac{\bar{q}}{S.D._2} \qquad (2)$$

It is impossible to find $\bar{q}$ or S.D.$_2$ for the B variate because all cases are grouped into two classes. It is necessary to substitute for formula (2),

$$\frac{z}{\frac{1}{2}(1-a)} \qquad (3)$$

The following explanation will show that this is possible. On the assumption that the B variate is approximately Gaussian in form, it is possible to make use of Sheppard's Tables. These tables give

ordinates and areas of the normal frequency surface in terms of the abscissa. In the normal frequency surface, given below, the area is taken as unity (1) and the central ordinate is c.



In the problem under consideration this frequency distribution is made up of 169 cases. Instead of these cases being divided into two equal groups they are divided by ordinate z into two groups, one of 62 and the other of 107 cases. It is evident now that the location of the z ordinate, measured in terms of the abscissa, will be comparable to the $\bar{p}$ of the numerator and hence can be substituted for the $\bar{q}$ of the denominator. Now, the distance between ordinate c and ordinate z is called x and is measured in terms of the S.D. of the distribution and is given in Sheppard's tables as $\frac{x}{S.D.}$. It is evident then that if the total area is unity, the area to the right of z is $\frac{1}{2}(1-a)$ and that to the left is $\frac{1}{2}(1+a)$. Inasmuch as the whole number of cases is 169 and the number to the right of z is 62, it then follows that $\frac{1}{2}(1-a) = \frac{62}{169} = .3663$. Subtracting .3663 from unity the value of $\frac{1}{2}(1+a)$ is found to be .6337. By reference to Sheppard's

tables it is found that this value of ½(1—a) corresponds to $\frac{x}{S.D.} = .34$ and $z = .3765$. By substitution in formula (3) we have:

$$\frac{.3765}{.2663} = 1.03$$

Now the final substitution in formula (1) gives

$$r = \frac{-.28}{1.03} = -.27$$

Computation of biserial r for the large cities.

$$r = \frac{-1.59 - (-.96)}{\frac{2.58}{.3966}} = -.28$$

$$.4571$$

Computation of the biserial r for the cities of the Great Lakes Division.

$$r = \frac{-.03 - (.64)}{\frac{2.46}{.3790}} = -.27$$

$$.3725$$

For a full explanation of the derivation and use of Sheppard's Tables see: Sheppard, W. F., New Tables of the Probability Integral. Biometrika, Volume II, page 174.

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VITA

The author of this dissertation, George Willard Frasier, was born at Marlette, Sanilac County, Michigan, on September 21, 1890. He received his early education in the public schools of Michigan, graduating from the Marlette High School in 1909. He received a B. Pd. degree in 1915, and an A. B. degree in 1916 from the Michigan State Normal College, at Ypsilanti, Michigan. He received an A. M. degree from Leland Stanford Junior University in 1919. He was a student at Columbia University, during the year 1920-21, and the summer school of 1921. He is the author of "A Statistical Study of Sex Differences in Intelligence and School Progress," and nine professional articles published in educational magazines.